



Report

How self-help groups strengthen resilience

A study of Tearfund's approach to tackling food insecurity in protracted crises in Ethiopia

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About this report

This report presents research conducted to understand the contribution of Tearfund’s¹ Self-Help Group (SHG)² work on the resilience of rural communities in Ethiopia to shocks and stresses.

It outlines a conceptual framework, informed by Tearfund’s theory of change (ToC) and a wide literature review of SHGs, resilience and financial inclusion, and summarises findings from work conducted in Ethiopia’s Kindo Koysa and Ofa districts, where the framework was tested using ‘serious game’ methodology.³

1 This research project stems from collaboration between Tearfund UK and Tear Netherlands. In this report, Tearfund refers to both organisations.

2 Self-help groups (SHGs), in Tearfund’s context, are groups of about 15–20 people. External facilitators initially support the groups in setting up activities and organising themselves. This includes the development of by-laws and rules, setting common goals and strengthening social ties. SHG members often comprise some of the poorest in a community (Tearfund, 2015).

3 Serious games are a way to simulate complex situations in a simpler game scenario. They can convey knowledge to participants, and also contribute to a greater understanding of people’s choices, preferences and decision-making (de Janvry, 2015; Suarez et al., 2011).

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Acronyms

BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters
CCA	climate change adaptation
CLAs	Cluster-Level Associations
DRR	disaster risk reduction
FGDs	focus group discussions
FLAs	Federation-Level Associations
GBV	gender-based violence
IGAs	income-generating activities
KIIs	key informant interviews
M&E	monitoring and evaluation
MFIs	microfinance institutions
PRIME	Pastoralist Areas Resilience Improvement through Market Expansion programme
PSNP	Productive Safety Net Programme
SCI	Social Capital Initiative
SEWA	Self-Employed Women's Association
SGs	savings groups
SHG	Self Help Group
SL	sustainable livelihoods
SNNPR	Southern Nations, Nationalities, and Peoples' Region
TDA	Terepeza Development Association, Ethiopia
ToC	Theory of Change
VAW	violence against women
VSLAs	Village Savings and Loans Associations

Executive summary

Ethiopia, in the Horn of Africa, experienced two consecutive years of drought in 2015 and 2016 (World Bank, 2016), induced by an El Niño event and characterised by depressed and erratic rainfall in *belg* and *kiremt* seasons (Singh et al., 2016). The drought affected a large proportion of the population, since many rural communities depend partly or entirely on rain-fed agriculture and livestock rearing. In this shock-prone environment where rural poverty is prevalent, people have limited capacity to cope with these unanticipated events.

Access to financial resources and other support mechanisms is important to allow people to better prepare for and cope with such situations. In most developing countries, financial inclusion in rural areas is limited (Haworth et al., 2016). Rural communities often find it difficult to access finance, and there are few formal options for sharing livelihood risks.

Tearfund, along with other organisations, promotes the Self-Help Group (SHG) approach as a way to help communities address livelihood shocks and stresses, enhance food security and strengthen social capital. This approach may provide an alternative for those with limited capacity to cope with shocks and stresses by encouraging members to make regular savings of small amounts (usually in groups of about 15–20 people). When SHGs have sufficient common capital, members can take out loans and finance activities according to pre-established rules and conditions (Tearfund, 2015; Kindernothilfe, 2014).

There has been limited research on how SHGs contribute to wider resilience and resilience-building activities. Some studies, undertaken mainly by implementing agencies, suggest that SHGs' activities contribute to helping members cope with shocks and stresses. In most analyses of SHGs' activities, however, the concept of 'resilience' is poorly understood or simply equated with food security.

To address this gap, this research sets out to explore how SHGs can contribute to building resilience and enhancing food security in protracted crises. In this

context, we consider climate-related shocks and stresses, including droughts such as the 2015–2017 event in Ethiopia and the greater Horn of Africa. In addition, we consider shocks such as sickness or fire damage, as these are part of the diverse set of risks confronting individuals and households and can add further stress to protracted crisis situations.

The links between SHGs' activities and building bottom-up resilience to climate extremes at the community level have been documented anecdotally but there has been little systematic and rigorous empirical research. By unpicking Tearfund's Theory of Change (ToC)⁴ and resilience concept, this study revisits and refines Tearfund's understanding of the different ways in which SHGs contribute to building resilience to climate-related shocks and stresses in both the short and the long term. Based on an original framework and methodology tested in rural Ethiopia, the research process and its results provide new insights that can help practitioners enhance resilience programming in the SHG approach. This also entails greater clarity regarding the definition and use of the resilience concept.⁵

Overall, the research found that:

- *SHGs act as grassroots social protection*: SHGs support their members' ability to cope with chronic stresses and unexpected shocks by offering a more flexible and merciful alternative to predatory money-lenders or formal microfinance institutions (MFIs). Members could receive assistance from people with the same socio-economic background, who understand their troubles and share their livelihood risks. SHGs do not, however, provide comprehensive social protection or replace alternative safety nets.
- *SHGs do not create social support mechanisms from scratch, but, by formalising group savings, they reinforce and strengthen existing informal support networks*: SHGs present new ways and additional levers to channel support, especially among members. They also allow members to expand their social capital, for instance by grouping SHGs at cluster level (bridging) and by

4 A range of development interventions use a Theory of Change (ToC) as a planning and programme tool that makes explicit the assumptions that connect project activities to the outcomes projects seek to achieve (Valters, 2015).

5 Drawing on Tearfund's broader definition, this paper regards resilience as the capacity of people and communities to recover from shocks and adapt to new post-disaster contexts from the bottom up (Tearfund, 2016). This definition, like Tearfund's ToC, does not specify the types of shocks and stresses that require resilience-strengthening through the SHG approach. In this research, we consider resilience in relation to a range of shocks and stresses, including climate-related covariate shocks with impacts on a wider range of people, for example droughts, as well as idiosyncratic shocks, for instance sickness, affecting individuals or households.

reaching out to other institutions (linking), most notably through encouraging political leadership.

- *SHGs empowered female members financially, socially and politically, but did not completely restructure gender-based power relationships within households or the wider community:* Through SHGs, women played a larger role in obtaining access to financial resources, but husbands continued to take charge of household decision-making. Similarly, we did not observe shifts in gender relations at community level, though SHG members were more confident to present requests to local political authorities and to rely on SHGs and their networks for greater leverage.
- *SHGs supported livelihood diversification and preparedness to shocks, but people's exposure to climate risks did not change very much:* Livelihood diversification was strengthened through the introduction of new income-generating activities

(IGAs) and training on alternative practices for SHG members. Flexible lending arrangements and common mechanisms, for instance stocking foodstuffs, helped members to cope with shocks and stresses. New livelihood activities, however, were often exposed to similar, mostly rainfall-related risks and were therefore not always a means to diversify risk. Trading activities represented an exception in this context.

- *SHGs promoted sustainable agricultural practices:* Water scarcity was at the core of most livelihood struggles described by study participants. Many SHG members were trained in and used conservation and sustainable agricultural practices. In the context of persistent drought, these practices were limited in their ability to sustain livelihoods.

1. Introduction

Ethiopia, in the Horn of Africa, has experienced two consecutive years of drought in 2015 and 2016, induced by an El Niño event and characterised by depressed and erratic rainfall in *belg* and *kiremt* seasons. These shocks and stresses affect a large proportion of the population since many rural communities and households depend entirely or in part on rain-fed agriculture and livestock rearing. Support mechanisms, including access to adequate financial resources, are important to better prepare for and cope with such situations.⁶

Tearfund, along with other organisations, has promoted the Self-Help Group (SHG) approach as a way to help communities address livelihood shocks and stresses, enhance food security and strengthen social capital. In the Tearfund context, SHGs are groups of 15–20 people, often comprising the poorest in the community, who undertake common social and economic activities. In its approach to supporting SHGs, Tearfund emphasises the role of training and of helping SHGs in setting up rules and operations through external facilitation, especially in the early stages. The number of Tearfund-related SHGs in Ethiopia has been steadily growing since 2002, when the organisation first established an SHG in Nazareth Town. To better understand the different ways in which SHGs contribute to building resilience to a variety of shocks and stresses, both in the short and in the long term, this study unpicks Tearfund’s Theory of Change (ToC)⁷ and resilience concept. The research is based on an original framework and methodology tested in rural Ethiopia. Drawing on a broader definition, we regard resilience as the capacity of people and communities to recover from shocks and adapt to new post-disaster contexts from the bottom up (Tearfund, 2016).

This study focuses on SHGs supported by Tearfund in the Ofa and Kindo Koysha districts of Ethiopia’s Wolayita zone (see Figure 1). Livelihoods in these areas largely depend on agro-pastoral activities, with some also engaging in petty trade or manual labour, for instance carpentry. These livelihoods are affected by a variety of shocks and stresses. Participants’ concerns were largely

concentrated on individual or household matters such as covering costs of education and distance to schools, or fire destroying the house and belongings of community members. In addition, covariate natural shocks challenge people’s lives and livelihoods. Floods, hail and drought are the most common hazards experienced by respondents in the study locations. Hail and floods were largely associated with erosion and damage to houses and crops. Drought and erratic rainfall contributed to a shortage of water for rain-fed agriculture, a failure of water points, insufficient harvest, and food insecurity or famine. In addition, respondents were exposed to vector-borne diseases, for instance malaria, and water-borne illnesses, as well as animal pests and deaths, which some also attributed to changing climatic conditions and weather shocks. Structural and economic barriers, including the increased cost of agricultural inputs, lack of infrastructure and limited market access deepened grievances during periods of hardship. Respondents specifically highlighted the interactions among different shocks and stresses and the difficulty of coping with multiple hazards at the same time.

Figure 1. Location of the study in Ofa and Kindo Koysha Districts of the Wolayita Zone



Source: Authors’ figure based on Global Administrative Areas (2015).

6 This research considers different types of shocks and stresses, including those that specifically affect an individual or a household (idiosyncratic shocks) such as sickness or fire damage. In addition, larger-scale shocks such as droughts, floods or pests, may affect a wider group or community overall (covariate shocks). This research focuses on idiosyncratic shocks, as well as covariate shocks and disasters related to climate or weather extremes, including droughts and erratic rainfall. Other non-natural shocks, for instance political or (macro)economic shocks are not explicitly considered, although we recognise that they can be key drivers or contributors to protracted crises.

7 In a range of development interventions, a Theory of Change (ToC) is used as a planning and programme tool that makes explicit the assumptions that connect project activities to the outcomes projects seek to achieve (Valters, 2015).

In this context, Tearfund and its local partner, Terepeza Development Association (TDA), support the establishment and development of SHGs to increase people's capacity to grapple with the variety of shocks and stresses and to improve their food security. TDA's interventions, in line with Tearfund's broader strategy, are not based on direct monetary contributions or providing start-up capital for SHGs. Instead, the approach builds on learning and mutual support between group members with similar socio-economic backgrounds. SHGs receive training offered by TDA, following a schedule of modules aligned with the age of the group, or training based on its needs. TDA places a relatively strong emphasis on conservation agriculture and sustainable organic farming, aiming to adapt agricultural practices to external influences and to support their resilience.

A baseline report on the status of food security in Tearfund-supported SHGs in Wolayita implies that, in 2014, households with SHG members were less food-insecure than non-members, especially in SHGs that had already existed for three years or longer (Tear NL, 2014). This research does not directly assess progress in quantified

levels of food security, but sheds light on the processes through which SHGs may strengthen resilience of their members and the wider community, which can then contribute to food security in the face of diverse shocks and stresses.

Chapter 2 introduces the SHG approach in more detail. It discusses links between SHGs and resilience already established by previous research and points to the limitations of the approach, as well as to gaps in resilience research more generally. Chapter 3 introduces the conceptual framework and methodology this study uses, and Tearfund's ToC on which it is based. Chapter 4 presents findings, focusing on SHGs' role in grassroots social protection, as well as on their contribution to women's empowerment and different types of livelihood capitals (social, natural, financial and political). Chapter 5 revisits the hypotheses and assumptions underpinning this research and reflects on key concepts and the methodology. Chapter 6 concludes with a range of recommendations to Tearfund and partners specifically, as well as to other organisations and policy-makers working with or considering implementing the SHG approach.

2. The Self Help Group approach

2.1. Self-Help Groups versus conventional savings groups

Self-Help Groups (SHGs), next to more broadly defined savings groups (SGs)⁸ are a form of community-based approach to microfinance (Lawson McDowall et al., 2016). Both emphasise their role in economic activities and development, and facilitate training for their members on diverse issues such as financial recordkeeping, literacy, agricultural practices and leadership (Lawson-McDowall et al., 2016). SHGs generally attribute additional importance to the social, human and political dimensions of people's livelihoods, which may be less tangible and rely on behavioural change among group members that cannot be addressed only through training.

This focus on human and political dimensions of livelihoods aims to empower marginalised parts of the population – often women – and improve the wellbeing of individuals and communities (Lawson-McDowall et al., 2016). While research demonstrates that SHGs can enhance *economic* power, the evidence that SHGs contribute to social and human dimensions of livelihoods and resilience remains largely anecdotal. This is partly because these dimensions are much harder to capture systematically and over a short timeframe, while behavioural change happens over a longer period. This report does not compare SHG and SG approaches but, recognising that both share some dimension of SHGs' contribution to resilience, it focuses specifically on SHGs' activities and their contributions to building resilience.

2.2. Approaches to building greater resilience to diverse shocks and stresses

In a departure from traditional relief approaches, the focus on resilience in protracted crises, such as drought, aims to 'adequately address the needs of chronically vulnerable populations' (Frankenberger et al., 2012a: 11) who are facing difficulties to cope and make advances while experiencing continuous and often simultaneous shocks.

Resilience interventions aim to strengthen people's asset base and capacities, on which they may draw in times of stress to protect themselves from the impacts of the unexpected. Furthermore, they may support preventive mechanisms, preparedness or adaptation. Resilience interventions encompass a broad range of activities, for instance enhancing access to financial services, training or the provision of early-warning systems. This diversity reflects the multidimensional nature of the resilience concept and the variety of shocks and stresses it aims to address. In those cases where hazards are clearly defined, resilience programmes can support resilience to either a specific type of hazard or to a broad range of idiosyncratic and covariate shocks. SHGs represent an approach that aims to build resilience at the individual, household and community level through capacity-building and empowerment from the bottom up (Tearfund, 2016). Frankenberger et al. (2012a) link resilience to strengthening the assets defined in the sustainable livelihoods (SL) framework: financial, natural, physical, human, social and political capitals.⁹ Building on their analysis, this report assumes that diverse livelihood assets contribute to strengthening adaptive capacities and can support resilience, thus enhancing food security in times of increasing climate stress.

2.3. How SHGs may support livelihood assets to strengthen resilience

2.3.1. Savings, loans and risk sharing

Savings and loans can strengthen people's resilience to climate-related challenges by helping them to plan, adapt to changes, and cope with shocks when they happen (Haworth et al., 2016).

By saving regularly and obtaining access to loans, SHG members can accumulate assets and improve their financial security, which helps reduce their overall vulnerability. Using savings or taking out loans in response to crises can help people to maintain their livelihoods or recover from

8 Savings Groups include Village Savings and Loans Associations (VSLA) and Village Economic and Social Association (VESA).

9 Table 6 in the Annex provides a broad overview of how SHG approaches to microfinance may contribute to building resilience at various levels.

natural disasters such as floods or droughts (Sebstad and Cohen, 2000). For example, the Self-Employed Women's Association (SEWA) in India offers housing loans to repair or replace roofing, reinforce walls, or rebuild in less hazard-prone areas, which can be key for reducing vulnerability to future extreme events such as floods, droughts and storms (Hammill et al., 2008). Evidence on the patterns and dynamics of how members obtain loans via SHGs also indicates that such groups may support a shift in attitude and action from coping strategies after an event towards economic transformation and risk management. In India, Puhazhendi and Badatya (2002), for instance, found a perceptible change in SHG loan patterns over time as loans that were consumption-oriented were replaced by those that were oriented to production. This was attributed to enhanced access to loans and to training provided in the programme that linked SHGs with banks.

By pooling resources and establishing strong social relationships, community-based groups can thus support the accumulation of savings and access to loans in areas not previously reached by more established financial services (Haworth et al., 2016; Agrawala and Carraro, 2010). SGs and SHGs often have a social fund, which provides members with a basic form of insurance and serves as a community safety net on which members can draw times of crisis (Lawson-McDowall et al., 2016). Through these mechanisms, the groups facilitate the strengthening of people's economic base, diversifying their livelihoods, and investing in greater efficiency, productivity, and profitability of their businesses while simultaneously improving resilience (Haworth et al., 2016).

2.3.2. Training

Many SHGs provide or facilitate training to their members to enhance resilience to different types of shocks and stresses by strengthening capacities within and beyond the economic and financial sphere.

Training in financial literacy enables more effective use of funds, particularly for women, who have often been restricted from attending school and are characterised by lower rates of formal education (Haworth et al., 2016). Credit alone is not enough to bring meaningful change to women's situation (Armendariz de Aghion and Morduch, 2005; Bali Swain and Yang Wallentin, 2014). The likely success and efficacy of microfinance services can be strengthened through the provision of 'life skills' training in areas such as literacy, health and hygiene (e.g. disease prevention, nutrition during pregnancy), financial management (e.g. bookkeeping, investment decisions), and specific technical skills (e.g. livestock rearing, food storage, fish processing)

(Bali Swain and Yang Wallentin, 2014; Hammill et al., 2008).

For many microfinance services, this training does not necessarily end when the loan has been given. Many initiatives provide longer-term training, which is not strictly limited to financial issues. Group-based approaches can be used to provide training on issues relevant to local livelihoods in order to maximise the impact of financial resources and thus to strengthen resilience through a broader capacity base. Such training is adapted to local issues or needs, and is generally offered by NGOs specialising in these fields.

2.3.3. Social capital and community embeddedness

We define social capital as the 'social networks and the norms of reciprocity and trustworthiness that arise from them' (Putnam, 2000). The Social Capital Initiative (SCI) found that social capital is a 'pervasive ingredient and determinant of progress' in a range of development projects (Grootaert and Bastelaer, 2002).¹⁰ A review of evidence from SCI showed that social capital was instrumental in increasing agricultural productivity, improving the management of common resources, and enhancing access to water, sanitation, credit, and education in rural and urban areas. For SHGs, social capital can also play an important role in strengthening resilience to shocks. A 2012 Red Cross report showcasing the role of social capital in resilience to disasters showed that it can instil a sense of mutual reciprocity, facilitate recovery, and strengthen networks to spread information to enhance preparedness (Australian Red Cross, 2012).

A major justification for the creation of SHGs is that they promote both economic empowerment and social capital. As a community-led group, SHGs are designed to develop mutually supportive relationships (Hudner et al, 2015; Haworth et al, 2016). They do this through collective decision-making, determining rules transparently, and promoting accountability in taking loans, all of which are achieved through regular face-to-face meetings. Accumulation of savings and record-keeping establishes the credibility of the group as a whole, and of individual members. Taking loans displays 'acting in good faith', and repaying them demonstrates members' 'reliability'. Meetings are the platform for members to make savings contributions, but they also strengthen the relational dynamics of the group.

SHGs' contribution to social capital can apply to both intra-group relationships (which is often the lens adopted by SHG-focused studies to understand such contributions), and social capital between members and non-members.

Research on whether SHGs promote social capital is somewhat mixed, and depends on whether social capital

¹⁰ The Social Capital Initiative ran from 1996 and funded 12 programmes across a variety of sectors and regions, and produced 12 studies on the relationship between social capital and various development outcomes.

is measured between SHG members or whether the relationship is with the wider community. Some studies show that economic empowerment spills over into positive friendships among SHG members (Feigenbaum et al., 2012, 2013), and others find no evidence that SHGs promote improved social networks at the community level. Ban et al. (2015)'s study of SHGs in Cambodia found that participation in SHG groups did not change levels of trust or willingness to contribute to public goods in the wider community. A number of other studies, such as Feigenbaum et al. (2013) on SHGs in India, differ in their findings, with SHGs contributing to measurably higher social capital for their members. Ban et al. (2015) attribute some of these differences to the use of diverse metrics to capture social capital.

2.3.4. Women's empowerment through SHGs

Discriminatory norms can exacerbate women's vulnerability to shocks and stresses, leaving them disproportionately affected by disasters and climate change. During and after a disaster, women have a higher risk of mortality, are more likely to experience gender-based violence (GBV), and are more likely to suffer damage to their livelihoods (Concern Worldwide, 2015).

Women's heightened vulnerability does not prevent them from playing a vital role in increasing the resilience of their households and communities to disasters and climate change. Women are often perceived as victims rather than equal contributors of knowledge and skills in disaster risk, adaptation, and mitigation strategies. There is evidence that greater transformation (in which actions are taken to reduce vulnerability to risk) is achieved when women are involved as agents of change rather than merely as recipients of support (Sogani, 2016).

The type of investments women make when they have access to economic resources, for instance, are not only beneficial for themselves, but for the resilience of the household and wider community. Research has shown that women and men make different decisions about how to use resources, notably investing in food and children's education and health, all of which can improve overall household and community resilience (Fiszbein and Shady, 2009; Armendariz de Aghion and Murdoch, 2005; Hudner et al., 2015). Increasing women's access to financial resources can also promote social and economic empowerment, social and political inclusion, as well as more equal decision-making in communities by supporting greater financial autonomy, facilitating influence on decision-making and increasing women's bargaining power (Bali Swain and Yang Wallentin, 2014; Armendariz de Aghion and Murdoch, 2005). These outcomes, however, may be undermined by persistent social structures in cases where the husband controls loans and his wife depends on him for repayments (Bali Swain and Yang Wallentin, 2014; Banerjee et al., 2013; Garikipati, 2008; Goetz and Gupta, 1996; Rahman, 1999; Leach and Sitaram, 2002).

Lastly, there are several less tangible benefits arising from microfinance schemes: increased self-confidence, pride, respect, independence, and feelings of empowerment (Helmores, Chidiac and Hendricks, 2009). In addition, microfinance can reduce vulnerability by increasing the knowledge of participants; greater legal and political awareness is an important first step in raising women's awareness of their rights in the household and community at large (Sebstad and Cohen, 2000). Furthermore, as women gain experience and begin to articulate their opinions in group meetings and at home, more women are becoming involved in local politics (CARE Uganda, n.d.). In one such programme in Sudan, for instance, women have organised themselves to demand their rights from local authorities. Similarly, the Kenya Women's Finance Trust groups have started to influence national economic policy and became involved in risk-reduction projects. The political and social aspects of Village Savings and Loans Associations (VSLAs) greatly contribute to overcoming existing gender barriers in communities (Mayoux, 2002).

Many SHG approaches have therefore been directly aimed at women to support their capacities as well as to transform social structures by strengthening their position in the household, community and beyond.

2.4. Limitations of the SHG approach for building resilience

While community groups and microfinance approaches can promote financial inclusion and resilience in communities, they can be undermined by weak management, lack of transparency, and malpractice (Haworth et al., 2016). If not managed correctly, microfinance can lead to indebtedness, increased exclusion and the pursuit of unsustainable practices (University Meets Microfinance, 2015; OECD, 2012). It can also deepen vulnerabilities despite intentions to support empowerment. For example, there are serious dangers that focusing on women for VSLAs without social support at the community level or broader empowerment beyond the financial aspect can impose additional burdens of household subsistence and debt on women (Mayoux, 2002).

Beyond gender concerns, there are a few notable limitations with the SHG approach for building resilience to different types of shocks and stresses. As touched on in the following section (gaps in the resilience research), there is a risk that a severe crisis or disaster may affect all members, which can lead to the collapse of the group (CARE, 2015). Furthermore, there are examples in Cambodia where loans have been invested in traditional agricultural practices, leading to an increased dependence on rice cultivation. This could be a viable development strategy in the short term and where market conditions are favourable, but also makes households more vulnerable since they rely on a single main source of income that is especially exposed to weather-related shocks (University

Meets Microfinance, 2015). For these reasons, there is a strong case to package microfinance services with wider education to inform participants of disaster risk reduction (DRR) or climate change adaptation (CCA) strategies. Effective and well-designed microfinance systems tailored to the context will greatly increase the chance of success of individual participants and of the group as a whole (IDS, 2008).

2.5. Gaps in resilience thinking and practical applications of the concept

Much of the research and practice on vulnerability and resilience has a common shortcoming: the underlying assumption that building resilience is a general endeavour that is relevant to all types of shocks. As Frankenberger et al. (2012a: 15) explain, ‘existing empirical research on vulnerability is [...] not assessing vulnerability with respect to specific types of shocks or populations, but rather assesses vulnerability of homogenous communities to all types of shocks (both idiosyncratic and covariate)’. This applies to research on SHGs and their role in supporting individual, household and community resilience. Although SHG-focused practice and literature tends to focus on the most marginalised in a community (and thus does not assume that communities are ‘homogenous’), the existing SHG research to a large extent does not focus on the types of shocks and stresses to which SHGs are capable of building resilience. A SHG may be better prepared to help out members who fall ill, but cannot support all members if a significant drought or flood affects all members of the community.¹¹ This failure to distinguish between different shocks and stresses in practical approaches to building resilience, for instance, is reflected in Tearfund’s ToC, which does not clearly define hazards or crises.

In a context of climate change, the increase of extreme climate-related events requires a more detailed description of the characteristics of shocks considered in resilience-building strategies. Resilience theorists hypothesise that

covariate shocks may render SHGs less effective. In their study of Indian SHGs, Bali Swain and Floro (2010: 6) suggest that SHGs are ‘likely to be ineffective in the face of “covariate” shocks’, in which all members of a community are affected equally by a negative event. In a study of informal risk-sharing, Dercon (2002) points to the limitations of community-based social networks in coping with these types of covariate shocks. While savings, whether private or group-based, may support the management of some covariate risks, there are limitations to grappling with larger shocks if everyone in a community is affected at the same time.

In addition to the intensity of the event, the frequency and persistence of shocks can present serious limitations to building resilience to both idiosyncratic and covariate risks in the long run as households’ capacity to cope decreases with higher frequency, intensity and persistence (Dercon 2002). This finding is corroborated by a study of the PRIME programme in Ethiopia, in which communities initially relied on social capital to cope with a drought. Over time, social capital was eroded, making it harder for communities to support each other as the stress persisted (Feed the Future FEEDBACK, 2015).¹² Taking the frequency, severity, and length of shocks and stresses into account produces a much more accurate picture of household resilience and whether SHGs are equipped to enable their members to cope.

Some research argues that the limited understanding of dynamic informal mechanisms may seriously underestimate the capacity of such arrangements to buffer covariate shocks (Balgah and Buchenrieder, 2010). Though SHGs are not entirely informal, this ‘underestimation’ may also apply to these grassroots groups. It is possible that the other forms of capital that are strengthened through SHG membership better enable communities to deal with even far-reaching covariate shocks. This research aims to help fill these gaps, testing an innovative research methodology to better understand the links between SHGs and resilience to both idiosyncratic and covariate shocks and stresses.

11 Though academic research may not have covered this extensively, there is some evidence from a study of Tearfund Ethiopia’s SHG programme on the impacts of a severe El Niño drought. The report suggests that members of SHGs were better able to withstand drought (especially if the groups were more mature). The study is available at: www.agri-learning-ethiopia.org (consulted in January 2017).

12 Importantly, this is not a study of SHGs, but an impact evaluation of resilience capacities in the context of a resilience-building programme.

3. Conceptual framework

3.1. Developing the framework

Unpicking Tearfund's Theory of Change (ToC) is an entry point of this conceptual framework in this study, allowing us to revisit and refine Tearfund's understanding of the kinds of social change to which SHGs contribute.

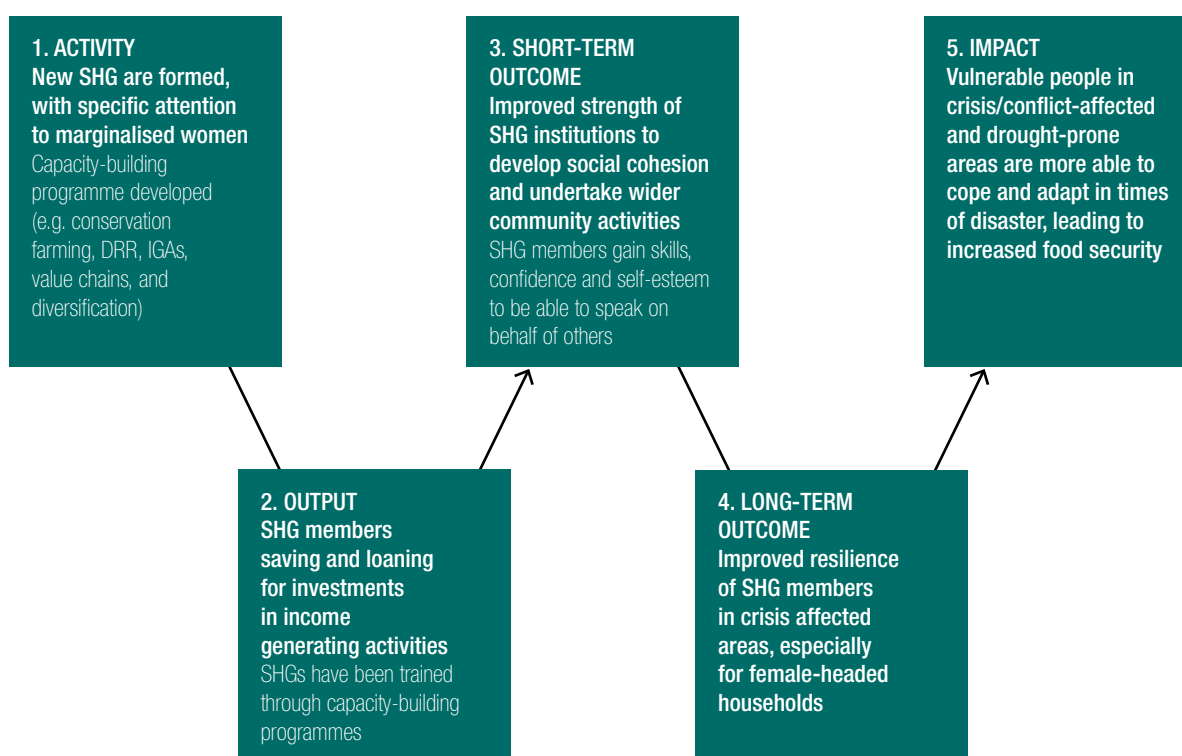
Through this study, we are probing the validity of outcome-level changes,¹³ both in the short and the long term, and linking this to impacts. Tearfund's ToC asserts that SHGs develop the skills, social cohesion and confidence of their members (empowerment) in the short term, which ultimately improves their resilience in the longer term. According to this theory, the impact of these changes translates into increased food security in the face of protracted crises. In this study, we draw out elements of Tearfund's ToC that focus on social dimensions, including empowerment, trust, reciprocity, social cohesion – or social capital – and risk-diversification

behaviours in order to test these. Other important elements that describe how SHGs improve economic capacity, for instance by supporting access to loans, are already well established in the literature (see Chapter 2).¹⁴

Figure 2 shows the detailed links between activities, outputs, outcomes and impacts in this social dimension of Tearfund's ToC.

Reflecting the lack of clarity in the broader resilience literature (see Chapter 2), the ToC does not distinguish between idiosyncratic and covariate risks or along the lines of frequency, intensity and persistence. Drawing generalised findings on the role of SHGs in providing a kind of micro-insurance may be complicated by the large variety of risks facing SHGs, depending on their environment (urban or rural) and the diverse livelihoods of their membership (Malik, 2014).

Figure 2. Social dimensions of Tearfund's ToC for SHGs

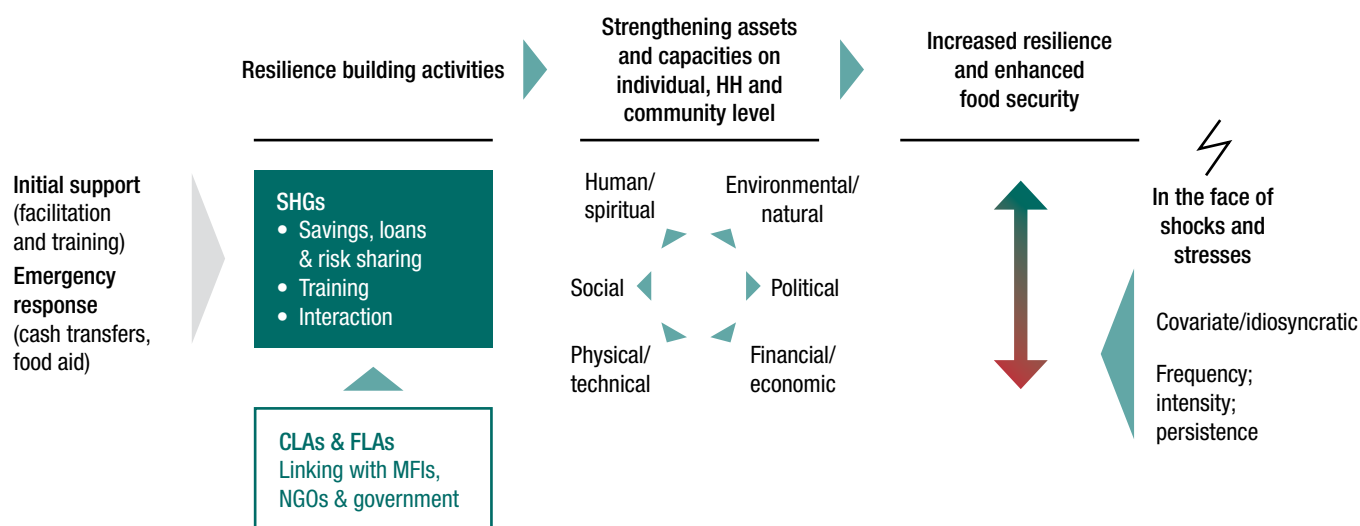


Source: Authors' synthesis based on Tearfund's ToC.

13 Like logframes, ToCs can be organised by inputs, outputs, outcomes, and impacts. These follow the logical flow of what types of change an organisation might seek to influence or contribute to with a type of intervention.

14 Table 6 in Annex 1 presents a broad overview of SHG contributions towards building resilience that draws on the wider literature on microfinance.

Figure 3. Conceptual framework



Source: Authors' own figure based on Frankenberger et al. (2012b), Tearfund (2015) and Tearfund's ToC

The conceptual framework (Figure 3) depicts how resilience-building activities undertaken by Tearfund's SHGs strengthen livelihood assets that then contribute to enhancing resilience and ultimately contribute to improving food security in the face of diverse shocks. It reflects Tearfund's distinct approach to facilitating the organisation of SHGs in Cluster-Level Associations (CLAs) and Federation-Level Associations (FLAs). This helps bridge the gaps between different levels and link with other institutions, for instance to undertake advocacy, increase political representation, or strengthen access to financial services (Lawson-McDowall et al., 2016). Table 6 in Annex 1 also indicates the crucial role of organising SHGs into CLAs and FLAs to realise the potential of the SHG approach to building resilience on processes beyond households and communities (Bernier and Meinzen-Dick, 2014).

While *welfare*-based outcome indicators of SHGs – especially those related to income, health and nutrition – have been more thoroughly researched, social, human and political outcomes are harder to capture with more conventional monitoring and evaluation (M&E) methodologies. Standard surveys can alter interviewees' behaviours (Crossley et al., 2016). Well-established surveys have been used to track such SHG contributions at the individual level, but they are less suited to capturing behavioural and social change at the intra-household and community levels. Taking a closer look at social assets and processes may shed light on the dynamic role of informal micro-financial arrangements – such as SHGs – in building resilience

against idiosyncratic and covariate, shocks (Balgah and Buchenrieder, 2010).

Considering their exposure to different types of shocks, and because women comprise a large share of Tearfund-supported groups, another key component of the research is how SHGs empower women. We regard women's empowerment as an overarching capability that indirectly influences other assets, and thus contributes to achieving resilience. The relationship between livelihood assets and resilience has been well established in theoretical concepts and practical applications (DFID, 2011; Frankenberger et al., 2012a) and it is therefore assumed in this research that assets strengthen resilience at different levels.

What is less clear, however, is how SHGs contribute to individual capitals and a holistic set of assets beyond the financial and economic domain. Many other factors besides SHGs will contribute to livelihood assets, so based on the specific strengths of the SHG approach as described in Tearfund's ToC (see Annex 2), this research set out to test the following five hypotheses:¹⁵

1. SHGs empower members, especially women, and help them to strengthen diverse assets.
2. Participation in SHGs improves social cohesion, builds norms of reciprocity and supports social capital
3. SHGs enable members to adopt risk-diversification behaviours.
4. SHGs support conservation efforts and adaptive management of natural resources.
5. SHG members address covariate shocks through collaboration within, between and beyond groups.

15 Recognising that the language of logframes and ToCs is not very accessible, this represents a 'plain English' interpretation of each hypothesis. For a detailed list of hypotheses and how they relate to Tearfund's ToC, see the Annex.

3.2. Using the framework

To test these five hypotheses, we applied the ‘serious game’ methodology, which can retrieve knowledge about participants’ decision-making, behaviour and social interaction that is distinct from more traditional M&E methods such as surveys, in-depth interviews or focus group discussions (FGDs).

In serious games, the real-world problem or scenario is developed into a set of playable activities, with rules that participants can easily understand. By observing play, it is then possible to conduct analysis of decision-making, and better understand people’s choices, preferences and motives (Suarez and Bachofen, 2015). This methodology is particularly useful in addressing complex financial ideas, such as those being addressed in this research. As serious games are also useful for conveying complex ideas through simple rules, allowing players to develop experiential knowledge of complex problems (Mendler de Suarez et al., 2012; Suarez et al., 2011), they are also useful learning tools for communities. This learning aspect is validated at the end of the game through a questionnaire, asking players about their perceptions of the results and the lessons drawn from the game.

Table 1 provides a list of quantitative indicators and qualitative observations that were used through the game to address the five hypotheses.¹⁶

Following a pilot in Niger in December 2016, international researchers, Tearfund and TDA, and their national partners in charge of the SHG approach in the area, used the serious game in February 2017. The site chosen was in the Wolayita zone of the Southern Nations, Nationalities, and Peoples’ Region (SNNPR) in Ethiopia, where, throughout 2015 and 2016, average rainfall was below the long-term baseline for most months (Singh et al., 2016). Longer-term impacts of the drought are still affecting local populations and late onset of below-average rainfall in February and March 2017 is adding further stress to the prevailing situation of water shortage and food insecurity. In addition to droughts, floods and hailstorms are prevalent in the zone. Agro-pastoralist livelihoods in the study area are particularly vulnerable to these weather and rainfall-related stresses. Along with individual and household-level events and costs, such as sickness or education fees, they can impose a significant burden on the population. Respondents specifically highlighted the interactions between different shocks and stresses and the difficulty of coping with multiple hazards at the same time. Structural and economic

Table 1. Linking research question with game results

	Hypothesis to test	Indicator provided by the game	Qualitative observation
i	SHGs empower members, especially women, and help them strengthen diverse assets	Number of grains in the community storage, comparison women/men and mixed groups Number of grains in the personal storage, comparison women/men and mixt group	Identifying groups’ behaviours: leaders homogeneity in choice (for instance ‘waves’ to participate to the community storage or in investment decisions)
ii	Participation in SHGs improves social cohesion, builds norms of reciprocity and supports social capital	Homogeneity in contributions to the grain storage: 6. Mean and variance of individual contributions to the community grain storage 7. Mean and variance of the use of community storage	Criteria and decision process in the use of community storage: leaders/ power relation Criteria and decision process in the use of water storage
iii	SHGs enable members to adopt risk diversification behaviours	Diversification in investment: at the player/ couple (for mixed group) and group level	Use of the community storage for diversification Discourse on diversification/ livestock investments/ risk diversification
iv	SHGs support conservation efforts and adaptive management of natural resources	Investment in water storage: • number of participants • timing of participation (has the investment in water storage been delayed?) Individual use of water (index of mean and variance) Source of funding for the water storage uptake	Who decided to invest in the water storage and why? If the Investment decision has been delayed, why? Allocation criteria for water Discourse on water storage management and water resources
v	SHG members address covariate shocks through collaboration within, between and beyond groups	Criteria used to define beneficiaries after covariate or idiosyncratic shocks: correlation with age/sex/socio-economic data/vulnerabilities	Criteria used to define beneficiaries after covariate or idiosyncratic shocks: correlation with age/sex/socio-economic data/vulnerabilities

¹⁶ For details on the iterative development of the game and indicators, see Diallo et al. (2017).

barriers, including the increased costs of agricultural inputs, lack of infrastructure and limited market access deepened grievances during periods of hardship. Tearfund's ToC highlights the lack of positive coping mechanisms of people living in poverty to address such an environment, with women being particularly 'disadvantaged in access to resources and decision making' (see Annex 2).

3.3. Integrating methods for testing the framework

The experimental game combined research tools. It used qualitative methods, such as participant observation, semi-structured key informant interviews (KIIs) and FGDs. It also included systematic quantitative data collection during the game to establish variables that could be tested between groups of players. These groups comprised SHG women, non-SHG women, non-SHG and SHG men, and mixed groups of female SHG members and a man from the same household. Together, these tools allow the triangulation of information and an overview of social dynamics in communities and savings groups.

To address the hypotheses, the methodology also incorporated a gender analysis, which supports understanding

the linkages between membership in SHGs and resilience. It illuminates how people's social identity influences their ability to obtain access to resources, how they use them, and the benefits they generate. Such an analysis makes it necessary to reflect social diversity among research participants. Women and men of different age and status were consulted and invited to participate in the game. In order to comparatively assess data according to sex and SHG membership, four testing groups were set up in seven of the sites. In the first two sites, only two groups participated: women in SHGs and women who were not (site 1), and women in SHGs and men who were not (site 2). The selection of study sites was based on a range of criteria, including the predominance of agro-pastoral livelihoods to ensure the game reflected the participants' livelihoods. In addition, sites needed to be accessible and have a relatively long experience with SHGs. All SHGs included in the sampling had been in existence for at least five years. This threshold was established in consultation with Tearfund as a relevant level of maturity after which SHGs are expected to show significant progress and differences in behaviour from non-members. The selection of SHGs also considered a variety in location and context of highlands, midlands and lowlands, as well as different levels of economic activity (see Table 6 in Annex 1).

Table 2. Sampling strategy

SHG name / Kebele / Woreda	Women, SHG members	Women Non-SHG	Men	Mixed group
Pulassa Hidota – Sere Balaka – Kindo Koyssha	8	8	0	0
Itana Wopa – Sere Finchawa – Kindo Koyssha	8	0	8	0
Para Wocha Acha – Dada Kare – Kindo Koyssha	8	8	8	8
Siquwa- Busha – Ofa	8	8	8	8
Motala Dicha – Dada Kare – Kindo Koyssha	8	8	8	8
Go'a – Gale Wargo – Kindo Koyssha	8	8	8	8
Siquwa – Sere Esho – Ofa	8	8	8	8
Edget – Galda – Ofa	8	8	8	8
Dicha – Galda – Ofa	8	8	6	6
Total	72	64	62	54

4. Findings

The use of the methods described above clarified the contribution of SHGs to strengthening resilience by enhancing different livelihood assets and capacities. The game and FGDs test the different channels suggested by Tearfund's ToC in order to validate conceptual assumptions and inform causal links between SHG activities and resilience capacities.

4.1. Building resilience through grassroots social protection

4.1.1. Self-help groups act as grassroots social protection

Although their core purpose is to encourage saving, SHGs support their members' ability to cope with chronic stresses and unexpected shocks in novel ways. Mature SHGs in Wolayita had devised flexible loan-repayment mechanisms, exempted interest payments in the event of sickness or hardship, provided financial contributions to members who had just given birth, and gave direct nutritional assistance for those struggling in the lean season. Rather than turning to predatory money-lenders or inflexible MFIs, SHGs enabled members to obtain access to more merciful financial and in-kind assistance from people from the same socio-economic background that understood their troubles and shared their livelihood risks.

To break down SHGs' role in providing social protection, we use the categories established by Devereux and Sabates-Wheeler (2004).

- **Protective** – ensure basic consumption needs are met (cash or in-kind transfers, or fee-waivers)
- **Preventive** – insurance schemes or risk-pooling mechanisms to prevent a drop in living standards during crisis or less productive times in the course of a person's life
- **Promotive** – productive transfers, such as insurance and credit schemes, labour market interventions, investment in public assets and access to education or skills training
- **Transformative** – changes to discriminatory laws or practices that result in unequal access to social and economic resources

Devereux and Sabates-Wheeler's definition of social protection highlights that it is not only a state-led policy instrument but a series of actions that can be

taken informally to reduce vulnerability of the poor and marginalised.

SHGs' activities have a striking alignment with these four social-protection objectives. In our discussions with SHG members and leaders, people explained how SHGs help households better cope with risk and vulnerability through **protective** and **preventive** social-protection actions. This included communally storing grain and distributing it to needier households during the lean season, contributing to and allocating 'social funds', and providing rapid access to interest-free loans in the case of sickness or hardship. They also provide **promotive** social protection to the wider community by working on public assets such as roads and strengthening livelihoods, encouraging diversification and promoting 'climate smart' agricultural practices. In theory, SHGs have the potential to provide **transformative** social protection by leveraging their relationship with *kebele* (local ward) officials to lobby for policy change. In practice, however, the top-down nature of the government's policy formulation means that discriminatory policies are unlikely to be significantly modified by vocal SHGs. The groups are better positioned to lobby local governments about their basic needs than they are to challenge entrenched power structures (see also sections 4.3. and 4.6.).

The boundaries between these categories can be blurred and it is possible to promote more than one at a time (Devereux and Sabates-Wheeler, 2004). This is also the case with SHGs, for instance when they store or purchase large amounts of foodstuffs during low-price periods. SHG members are able to buy the products more cheaply, while the remainder are sold externally at market rate. Profits can be reinvested into the SHG, thus at the same time creating income (promotive) and improving food security for members during the lean season (preventive). In Table 3, we outline some examples that focus specifically on SHGs' social purpose and their ability to provide mutual support in the face of adversity, and not on their capacity for income generation (though some of these activities may well fall under 'promotive' social protection).

4.1.2. SHGs offer protection from exploitative lenders and debt traps

Incurring debt is both a response to a livelihood stress and a source of additional stress. Members of SHGs described the disadvantages of resorting to money-lenders, all issues that have been well documented in microfinance literature (see, for example, Helmore et

Table 3. Social protection through SHGs

Examples of social protection initiatives in SHGs			
Protective	Preventive	Promotive	Other social functions
Provide relief from deprivation	Seek to avert deprivation	Enhance real incomes or capabilities	Other forms of mutual assistance
Suspending interest payment and extending repayment cycles during drought	Distributing money collected from interest amongst members to make it through difficult season	Participating in voluntary road construction projects with the kebele to connect village to markets	For livestock that were bought using SHG resources, distributing offspring among members
Cluster-level resources transfers to help SHG members who lost livestock or whose crops were destroyed	Interest-free loans for weddings, funerals, and other social functions	Participating in voluntary 'swamp-draining' projects during the rainy season	
Allowing interest-free loans to meet consumption needs	Financial contributions to members who had given birth	Undertaking income-generating activities such as cattle rearing or merchandising as a group	
Contributing clothing and money for members affected by household fire	Annual disbursement of voluntary social fund for children's education	Learning and venturing into new livelihood activities, for example raising chicken	
	Rotating social fund that is disbursed regularly on a lottery basis		

Source: The authors, based on examples and synthesis of FGDs and key informant interviews.

al., 2009). People were, for instance, forced to pay high interest rates with no flexibility in repayment, loans could be accompanied with in-kind payment such as labour, and sometimes their requests for urgently needed loans would be denied. Money-lenders held such sway that in some circumstances people felt compelled to 'donate' their labour to gain favour with them even before asking for a loan. SHG members explained how visits to the money-lender caused their households to feel immense stress, anxiety, and sometimes to lose sleep. Some men even described how the most vulnerable were compelled to 'escape' the village for a year to earn enough to repay the outstanding loan, leaving their wife and children behind.

Generally, loans from MFIs were perceived as plagued with the same constraints as those from local money-lenders. People explained that MFIs have high fees, lack transparency, and have a long process for accessing money. Still, prior to joining a SHG, many people reported using MFI loans to pay for school fees, social obligations, and consumption during drought. Obtaining these loans reinforced people's vulnerability to shocks, particularly when they had to sell assets to service their debts. Not repaying the loan could result in losing people's most important asset – their land – or even jail time, and people were keen to avoid using these financial services when they could borrow from friends or neighbours instead.

SHGs supported members by providing alternatives to money-lenders and MFIs, particularly when people were dealing with illness or drought. The most common form of assistance from SHGs was providing flexible loan repayment. This was done in many ways, including extended loan periods, providing interest-free loans, and allowing people to borrow to fund household consumption rather than productive investments (see also section 4.5.).¹⁷ Though it does not fall within the conventional model of public social protection, flexible loan repayment relieved a burden when people were not otherwise able to meet basic needs. Where a money-lender or formal financial provider might not have confidence in the borrower, people could leverage mutual trust and understanding they had created within the SHGs to access much-needed resources.

For the rural poor, obtaining interest-free loans and flexible repayment were extremely important to prevent ballooning debts during times of stress. During periods of drought, people are less able to service debts, particularly in the case of long-term or repeated droughts. This can in turn force people to take out more loans, causing a negative spiral of indebtedness that undermines people's resilience in the long term. A 2016 study on drought in Amhara found that drought was the cause of debt in 69% of households in the Kobo *woreda* (district) and 58% of households in Sekota *woreda* (AKLDP, 2016).¹⁸ Households covered by the country's flagship Productive Safety Net Programme (PSNP) also incurred a major

17 Sickness or other idiosyncratic shocks were systematically allowed interest-free loans. For covariate shocks, such as drought or a difficult lean season, SHGs did not usually allow for interest-free loans in their by-laws, but provided these on a case-by-case basis.

18 www.agri-learning-ethiopia.org/wp-content/uploads/2016/08/AKLDP-Debts-in-Amhara.pdf

debt burden during the El Niño drought, even though the PSNP is explicitly designed to help people deal with chronic food insecurity and better manage livelihoods over the lean season. The study surmises that agricultural production alone is unlikely to provide enough income to pay off these debts, making SHGs' ability to enable members to sidestep unsustainable borrowing from money-lenders or MFIs all the more important.

Paying for religious or cultural celebrations, which are accompanied by costly ceremonies, is another major cause of indebtedness. In AKLDP's 2016 study of Amhara, loans for social functions were responsible for 26% of total debt in Sekota woreda and 15% in Raya Kobo (AKLDP, 2016). In some SHGs, social funds were created to pool resources to help pay for these events and avoid incurring debts. Different SHGs had developed their own modalities and purposes for their social funds, but they could be used to pay for festivals, ceremonies, education and medicine. These funds were voluntary (not all SHG members contributed to social funds) and existed in parallel to the particular group's savings capital. While these expenditures might be considered frivolous or wasteful, marking big occasions with a celebration was extremely important to people and SHGs undoubtedly played a role in helping members cope with these financial 'shocks'.

4.1.3. Formal social protection

In Ethiopia, the PSNP is the best-known form of social protection. Created in 2005, it is the government's flagship programme to support the rural poor who are facing food insecurity. It intends to build their asset base through employment in public works programmes and predictable food and cash transfers. The PSNP is instrumental in helping the poor smooth consumption during the lean season. In our sample, some SHG members were also PSNP recipients or recent graduates from the programme. The share of sampled SHG members currently on PSNP support ranged from very few to all members. As in SHGs, the share of households benefiting from PSNP in the study *kebeles* overall also varied widely, ranging from about 10% to roughly 70%.

The PSNP and SHG approaches have complementary objectives, and there is potential for greater coherence between this large national programme and the SHGs' grassroots methods. In the *woredas* we visited, mature SHGs often made a voluntary commitment to work on the same public assets as the PSNP recipients. SHGs undertook road construction, land rehabilitation, and support for building a school. SHGs alternated 'work days' with the PSNP recipients, and *kebele* officials remarked that SHG members were committed to finishing tasks rather than working a certain number of hours simply to fulfil the PSNP requirement. In one case, *kebele* officials allowed SHG members who were also PSNP

recipients to count public works undertaken through SHGs towards their PSNP obligations.

PSNP recipients are expected to graduate after a few years' participation in the programme, when they have accumulated sufficient assets to no longer need financial support to cope with food insecurity. In practice, however, *kebele* officials confided that they did not feel many of the PSNP recipients on their rolls were ready to graduate, even though officials were under strong top-down pressure to graduate households to meet regional targets. Some households had seen noticeable improvements in their situation, investing in corrugated iron roofs for instance, but *kebele* officials believed that most of their current PSNP recipients still needed formal support.

SHG membership could be a means to soften the impacts of graduation for households that are still vulnerable to seasonal food insecurity. Long-term SHG membership has demonstrable economic benefits for households. Cabot (2013) found that mature SHG members' annual expenditure was 11,937 birr higher than non-SHG households, and access to loans through SHGs saved them 632 birr a year compared to borrowing from a money-lenders. Combined with SHGs' risk-pooling mechanisms and training in financial management, these economic benefits could enable PSNP households to make the best use of the assets they acquired through the programme and support them in making a longer-term 'graduation' to more resilient livelihoods.

4.1.4. Comprehensive social protection?

SHGs are by no means a replacement for formal social protection. The risk-sharing arrangements and the scale of transfers in SHGs are minuscule compared to public programmes like the PSNP. The PSNP provides essential support for the most vulnerable during the lean season. One poor harvest or unexpected medical cost could push people living in poverty beyond a resilience threshold, forcing them to resort to negative coping strategies or to migrate in search of other opportunities. Having access to a form of social protection to confront both chronic and transitory food insecurity was essential for helping maintain secure livelihoods.

SHGs are also limited in their ability to deal with covariate stresses, irrespective of the degree of solidarity and collective action they have attained. When all members are affected, the communal capacity is strained. In particular, members described 'struggling together' during drought (SHG Bookkeeper). Sometimes members were forced to skip savings cycles or to drop out during drought and re-join the SHG when they were able to save again. Other members needed to ask for an extended repayment period. In one case, when many members were considering leaving the group, the SHG shared the revenue collected from interest equally among them to

help them cope with the lean season. It was also common for SHGs to break their by-laws to allow people to take interest-free loans to buy food to cushion the hunger gap. Though FGD participants and interview respondents still believed that SHG members were better off than non-members during a drought, such activities reduce the SHG's ability to provide loans for productive activities later. As one SHG bookkeeper explained, *'If we allow loans for consumption, our SHG cannot grow. If we provide the same safety net support as the government for consumption [referring to PSNP disbursements], we will collapse'*.

SHGs are not a comprehensive form of social protection because they do not necessarily include everyone in a community. In the areas we visited in Wolayita, SHG membership was relatively high, but it did not cover the entire *kebele*. Because SHG membership is voluntary, its composition is both a product of the approach and the interests and capacities of the members. Some groups that may be excluded are:

- **The most chronically vulnerable** (such as the old or infirm). For these people, participating in weekly saving and engaging in income-generating activities (IGAs) may be unrealistic.
- **Those who do not belong to a protestant congregation.** In Tearfund's approach in Wolayita, SHG membership is encouraged through protestant faith-based organisations (FBOs) and their charitable arms. People outside these networks may feel excluded, or may not have access to the same information and support that would enable them to join a SHG. Field research did not permit us to observe such mechanisms, but Tearfund must carefully monitor its approach in order to avoid exclusion on the basis of religious faith.
- **Men who misinterpret SHGs as 'women's work' or desperate activities by the poor.** Women SHG members faced high barriers when they initially joined, not only being viewed with scepticism by the wider community but also sometimes undermined by their husband and having to hide their participation from him. Even though the SHGs' success has caused men and others in the community to reconsider their initial prejudices and perceptions, many of the men we spoke with often still tend to associate SHGs with something mainly women do. This barrier is clearly not insurmountable; many men expressed interest in the approach and many others were already participating in an increasing number of male or mixed SHGs.
- **Women whose husbands were first to join an SHG.** While the option of joining may also present itself to these women, for some in the study saving in two pots at the same time has been regarded as beyond the household's capacity. In such cases, women may still indirectly benefit from their spouse's participation

in an SHG through increased social protection at the household level. However, they are not themselves participating in SHG activities and therefore may forgo empowerment benefits and social protection that addresses women's specific needs.

Lastly, SHGs did not *create* a sense of mutual support, but reinforced existing support and provided new ways for channelling it. Norms of reciprocity and informal social protection already existed prior to the introduction of SHGs. One such example was widespread membership in an *idder*, an informal insurance arrangement to cover funeral costs (Aredo, 2010). These other informal arrangements were more limited in scope than SHGs, but they reflect the fact that mutual support was already a core part of people's cultural identity. SHGs institutionalised existing support mechanisms through their by-laws and initiatives. By harnessing existing social norms and pooling resources, SHGs empowered members to provide grassroots social protection to each other.

4.2. Social capital

Social capital refers to the social resources on which people can draw to cope with shocks and stresses. To understand SHGs' contribution to social capital, we differentiate between bonding, bridging, and linking social capital (see Box 1), and draw evidence from observations from the serious game and FGDs. Because SHG membership is the starting point for our analysis, we examine the quality and nature of interactions within groups, specifically focusing on types of support mechanisms.

4.2.1. Bonding social capital

The serious game was designed in part to test qualitative aspects of resilience, including social capital between

Box 1. Classifying social capital

Bonding social capital – horizontal ties between individuals within the same social group. In a SHG, this refers to the relationships with members in the same SHG.

Bridging social capital – ties between individuals or groups that cross organisations. In the case of SHGs, this refers to the relationship between them SHG and the CLA, or between the SHG and the community.

Linking social capital – a link between a network and a form of authority. In the case of SHGs, this may be a CLA or SHG approaching a *kebele* official.

players.¹⁹ In the game, we observed cooperative, supportive behaviour from all groups of players, which suggests that SHG membership is not a decisive factor in whether people observe norms of reciprocity and mutual support. Players who were not in SHGs insisted that supporting each other was intrinsic to rural livelihoods, explaining that *‘in bad times, we share what we have. This is the first thing we rely on. We have strong social values, and organise to work on each other’s fields and help when we can’* (FGD Dada Kare). SHG members did, however, demonstrate a more systematic application of these norms by applying their by-laws in the game playing. As a result, SHGs were more consistent in decisions to help each other or in determining where to draw the line when borrowing from community storage. They were also more likely to share benefits from investments they had bought through community savings, mirroring the SHGs’ communal IGAs such as raising cattle or selling butter.

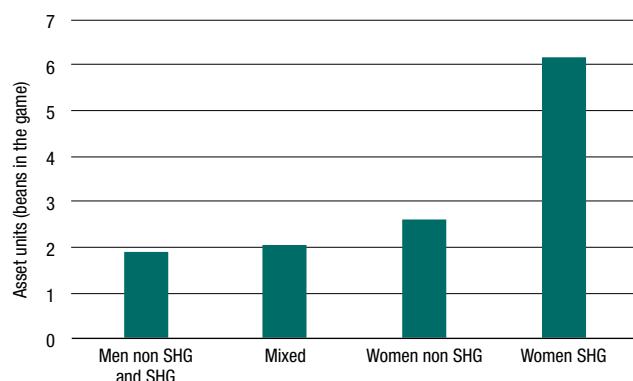
During the game, cooperative behaviour and expressions of solidarity were not always based on strategic decisions. In some cases, people were left with nothing in their personal storage (thus effectively ending the game) when players decided to pay collectively into communal infrastructure, such as the savings or water storage. These ‘losing’ players did not challenge the collective decision, and most sat out during the remainder of the game. In another game, a man who had been doing better than the other players allowed his livestock to die in an act of solidarity when others could not pay to feed their livestock. Games that were highly cooperative sometimes ended early because players repeatedly – and collectively – made poor investment decisions.

Just as bonding social capital was evident in both SHGs and non-SHGs, uncooperative behaviour appeared in all games. Players sometimes ignored the request of a player asking for a loan, refused to share water storage with each other, and blocked each other from using the community storage. Uncooperative behaviour was self-reinforcing; players who questioned why they should help each other received less support later. Overall, mixed groups tended to be fairly cooperative, though that stemmed from women following their husband and not remonstrating when disadvantageous choices were made on their behalf. In women’s SHGs, there were points where players were not collaborative, though this was seen mainly in not extending additional loans to players who still had outstanding loans, which is a by-law in SHG practice.

The analysis of quantitative indicators confirms the results from game observations. Women SHG members contributed significantly more to the community storage

than the other groups of players (Figure 4). On average, they dedicated 6.8 grains per person to the community storage, whereas non-SHG women gave 2.5 grains per person. This difference is important and significant.

Figure 4. Average contribution of asset units to the community storage by group



Source: Authors’ calculations.

The tables presented in Annexes show a significant difference in the averages between the different groups of players, and the difference between SHG and non-SHG groups of women is significant. Since the game was not played repeatedly, it is difficult to attribute such a result exclusively to SHG membership. Participation in the SHG is voluntary and it is possible that SHG members had been more likely to cooperate before joining the group. Nonetheless, this important difference confirms that women SHG members recognise the formalisation of pooling assets in the game and make more use of it than the other groups.

Players’ behaviour within the group of women who are SHG members is not homogeneous, however. The variation among SHG members is greater than that of the other groups of players. This difference is exacerbated by the fact that other players contribute little to the common storage in general, i.e. the series are driven by their overall low levels of participation.

Table 4. Coefficient of variation of individual contribution to the community storage by groups

	CV (in %)	Observations
Women, non-SHG	1.504078	74
Men, non-SHG and SHG	3.949366	85
Mixed	6.197123	75
Women, SHG	12.79539	88

¹⁹ Playing this game at different times with the same players would demonstrate more effectively how social capital changed as a result of SHG membership rather than playing the game once as a baseline.

This result confirms the earlier qualitative observations. SHGs are based on existing group cohesion and participation in them is significantly correlated with a greater pooling of assets. Results on individual contributions to the community storage are confirmed by indicators on its average size, which is significantly higher in SHGs than non SHGs.²⁰

We also explored whether the formalisation of pooling assets acted as a substitute for or complemented other informal transactions between players that are allowed in the game, such as gifts or individual lending, and can reflect informal mechanisms of support in the community. We did not find differences between women members and non-members of SHGs in terms of transactions besides the community storage.

In many ways, SHGs' role of providing grassroots social protection illustrates a high level of bonding social capital (see section 4.1.). As mentioned earlier, this type of social network or relationship often pre-dates joining an SHG, and much of the evidence from the game suggests that bonding social capital was exhibited by SHG members and non-SHG members alike. SHG membership, however, enhanced social capital and intensified norms of reciprocity. SHG members reported that the process of attending weekly meetings strengthened the intra-group relationships and allowed them to discuss issues they had not addressed communally before. Sharing problems and burdens helped build a sense of solidarity. As one member explained, *'We used to struggle with our problems individually, but now we share ideas and get encouragement from each other'*. Not only SHG members, but also non-members, described the groups as strong entities that would care for each other and stick together in times of hardship.

4.2.2. Bridging social capital

The game was not designed to test bridging social capital, but FGDs revealed supportive linkages had emerged between SHGs, CLAs, and other community members. Discussions with CLA representatives and SHGs illustrated how CLAs were able to support SHG activities and, if successful, contributed to the sustainability of the SHG approach. SHGs also demonstrated bridging social capital in their ad hoc support to people outside the group, though this was contingent on members' individual relationships with the wider community. We did not see any additional evidence suggesting that SHGs form strategic cooperative connections with groups or individuals in the community beyond CLAs.

Though it was infrequent, SHG members organised to support other people outside their SHG. With the help of their CLA, SHGs in Dada Kare reported supporting destitute people by helping farm their land, a novel activity that the participants had not undertaken before joining the SHG. SHGs also worked with local churches to mobilise support for people in need, both in the SHG and beyond. Lastly, although most SHGs explicitly forbade this, some SHGs reported allowing loans to be taken by non-members on condition that a member acted as collateral. SHG members emphasised that this ad hoc support is based on kinship and need. Though it is well intentioned, this type of lending risks weakening the SHG as a whole. Outsiders have not received SHG training or systematically invested weekly savings, and may therefore be more likely to default on loans and diminish the SHG's capital.

CLAs play a vital role in supporting bridging social capital, though they varied in strength and capacity, and CLAs in our sample still required support from TDA facilitators (see Chapter 5). CLA members consistently reported some major responsibilities in working with SHGs: 1) helping settle disputes between members; 2) backstop record-keeping and ensuring SHGs are on track; 3) mobilising SHG members to contribute to community projects; 4) providing moral support and motivation to SHGs; and 5) helping particularly vulnerable SHG members cope with losing assets or production. The last of these objectives was nascent in the CLAs in Wolayita, but it enabled SHGs to provide grassroots social protection on a broader scale than a single SHG could achieve, particularly for poorer groups. In Sere Balaka, the CLA helped plant *enset* (a drought-resistant strain of banana) when a SHG member lost her crops and provided goats or sheep for other members who had lost their livestock, enabling the poorest members to sustain their livelihood activities.

The demand for extra support for vulnerable SHG members was greater than the existing capacity of the CLA to distribute resources. In the longer term, the CLA's redistributive function is potentially potent, particularly during covariate shocks when some SHG members risk defaulting on loans because they cannot meet their household needs. Although all members will be affected by a shock, each individual has different endowments of land and assets that affect their capacity to deal with the impacts, and consumption-smoothing needs will be higher for some SHG members than for others within the same cluster. With membership ranging from 140 to 250 members in our sample, CLAs have a greater pool of

20 We checked for robustness of our results by looking for homogeneity of participation to the community storage across different discriminatory variables such as the day of the game implementation, kebele, age and sex. For robustness, we also run similar estimations excluding all weak data and information, when it is possible to calculate them; results were similar. In order to control whether similar risk-sharing mechanisms occurred beyond community storage and more informally we also looked at the transaction between players, but we did not find more transactions between non-SHG members or men than between women members of SHGs.

members to spread risks and redistribute resources, and strengthening the linkages between CLAs and SHGs can improve the sustainability of the SHG approach.

4.2.3. Linking social capital

Despite a frosty early relationship, SHGs in Wolayita had developed strong linking social capital with *kebele* officials, resulting in a revolving door between SHG membership and *kebele* offices. Initially, many officials were sceptical of the new groups or did not understand or trust the SHG approach, and one chairman admitted actively opposing SHGs. Because they did not entail an injection of cash or explicitly involve *kebele* authorities, SHGs were ignored by local governments. As SHGs grew and members were able to start taking out loans, government officials described becoming slowly convinced of the value of the SHGs. The chair who had opposed SHGs even decided to make them a *kebele* agenda item to promote the approach more broadly. In the *kebeles* we visited, many of the chairmen now belonged to a SHG. This happened through two paths: SHG members entering local elections as candidates for *kebele* leadership, and *kebele* officials joining SHGs in order to promote the approach by example or improve their own savings habits. *Kebele* officials were positive about the community works that SHGs had undertaken, especially road construction, and considered them a means to further development in their village.

SHGs afforded a few direct and indirect advantages to *kebele* officials. SHG members were better able to pay taxes and pay back in full their government loans for fertiliser. CLAs and SHGs organised members to undertake development work in the *kebele*, including road construction, digging ponds, and helping farmers rehabilitate land that had been damaged by erosion. When SHGs needed support to enforce loan repayment or by-laws, CLAs filed claims with legal authorities at *kebele* level, which helped settle these disputes. While this demonstrated officials' commitment to local SHGs, involving local authorities undermines the community-based nature of SHG rules and norms.

For SHGs, linking with *kebele* officials was an opportunity to gather support for expanding into other issues that were important to their members. The SHGs' weekly meetings had evolved to address issues beyond saving, and SHGs invited health extension workers to meetings to provide information on health, sanitation, and family planning. There was early evidence that better linking social capital can enable advocacy, and CLA members reported contacting *kebele* officials about road-maintenance needs, water-scarcity problems, and other community development issues (see section 4.6. on political capital). In some cases, this resulted in collaboration, for instance for building schools, whereas in others the *kebele* was less responsive and CLAs continued to pursue activities without this support.

4.3. Women's empowerment

Empowering SHG members, particularly women, amplifies other livelihood assets. Although empowerment is similar to political capital in that it addresses power relations, it is here used to assess the gender dimension of SHG work. It is key to the interaction between different livelihood capitals: women who are more empowered are better able to claim their rights and entitlements and pursue aims in other areas.

SHGs are framed as a means to help households save, rather than as an intervention to empower women. By putting resources into the hands of women, however, the SHG approach aims to enhance their decision-making power within and outside the household. Women participating in SHGs in Wolayita described some concrete changes in their economic assets (livestock) and human and social assets (family's health and children's education), and a greater voice and leadership in the community. All the same, women subordinate's to men remained strong in both the public and the private sphere, and SHGs alone could not reverse historical power asymmetries.

4.3.1. SHGs are a tool for women's empowerment

Traditionally, women's IGAs in rural Wolayita were limited to producing and selling dairy products, raising chicken, and planting vegetables. SHGs' skills development and training sessions pushed the boundaries of women's economic participation, facilitating their engagement in petty trade, livestock rearing, and other activities. With this economic base, women were able to save regularly and provide SHG members with business loans. The loan conditions were more favourable than those that men could obtain through MFIs or money-lenders, giving women an edge in household finances and reducing their direct dependence on the man to provide for the family.

Often, men initially disapproved of their wife's decision to join SHGs. In the early stages, many women hid their participation, since their husbands believed they were trying to avoid household chores or were wasting their time. They questioned and discouraged their wives regarding the concept of saving in groups, believing that they were subsidising benefits for others. Overall, men had little faith in the promises of how small savings could improve their lives. In the wider community, these sentiments were also common, based on misinformation and sometimes steeped in jealousy.

During the initial years of SHGs' existence in a community, male attitudes towards them shifted, particularly in the case of men whose wife was involved with SHG saving and IGAs. Men described their suspicion dissipating when their wife could support sick children, pay for children's school fees, and pay for corrugated iron for the roof. Men said that they no longer had to go to money-lenders to take out a loan, which they had often done without consulting their wife or obtaining her consent. These ideas and perceptions vary among different

individuals. Some men were positive and encouraged their wife's participation in SHGs from the start, but SHG members mentioned that a few were still reluctant to accept their participation.

Remarkably, men admitted to asking their wife for loans through her SHG. Though these loans were intended for agricultural inputs to benefit the household and it is unclear whether women offer this voluntarily or their husband puts them under pressure to do so, going through his wife to access money was a new phenomenon in the study location. It marks a distinct change from women who were not in SHGs, who still needed to ask their husband for money and who had little recourse to challenge his financial decisions. In one FGD with non-SHG members, women in polygamous marriages described how their husband tried to steal land and livestock from them to redistribute their assets to other wives. The women lamented their lack of power, saying, *'We can't react. We may complain, but our complaints are for nothing. Every woman in every household in the village feels the same pain'*.

4.3.2. SHGs do not restructure household or community dynamics

One of the key constraints the research highlighted with respect to women's empowerment was their low level of literacy. In several instances, men had been invited to join all-women SHGs to keep the books, because the women were not literate and could not fill this position. This is helpful in supporting the group's activities, but at the same time can undermine the goal of women's empowerment and make members dependent on one (male) figure in the group.

In the serious game, we observed that certain gender dynamics were persistent when men and women played together. If men made a move, women often (but not always) followed, particularly at the beginning when players were less certain of the rules and risks and more likely to imitate each other. Men led the discussions in communal deliberations, particularly in relation to using common resources like community storage or water. In more extreme cases, a husband made decisions on behalf of his wife with minimum consultation. When this happened, women tended to shrug it off, explaining that her husband had her interests at heart (even when the men's decisions were not advantageous for the women players). In other cases, women sat together and deliberated among themselves to make decisions, though they tended to concede if men ignored their inputs to communal negotiations. Overall, the mixed-sex games were split between four games that were cooperative

between women and men, with spouses helping each other, and three in which women barely participated in group deliberations and were overruled by dominant men.²¹

Although it is tempting to collapse the two, there is a distinction between men's attitudes towards SHGs and their attitudes towards women. Some men had become highly appreciative of SHG work because their households were now better able to cope with sickness and pay for children's schooling. Overall, however, male attitudes towards women's social position had shifted only slightly. FGD respondents reported that household decision-making power still lay in men's hands and men were responsible for household finances. Women's decision-making roles in the household remained mostly unchanged,²² which could result in additional burdens when women were involved with SHG IGAs and household chores (though women we spoke to did not report this as a major issue). Women's access to financial capital enhanced their economic and social assets, but their empowerment gains were still limited at the household level.

This study did not explore issues of domestic violence, but there is a real possibility that women's economic empowerment will upset household dynamics and may even provoke male violence or abuse. Women did not report these issues in FGDs, nor did we probe these issues specifically. Positively, however, research suggests that under appropriate conditions, women's political participation and economic empowerment can progressively shift social norms and lower the risk of domestic violence (Domingo et al., 2015). A study in western Uganda on SHGs found that membership allowed women to challenge the prevalence of violence against women (VAW) (Meier zu Selhausen, 2012). These outcomes are not inevitable, however, and as the SHG approach spreads, Tearfund should carefully monitor how women's empowerment affects their position in the household and their exposure to domestic violence.

In assessing gender aspects in the game, there is a significant difference between women and men in term of the average individual contribution to community storage when not controlling for belonging to a SHG. If we control for men and women belonging to a SHG, we find no significant differences between individual contributions but we still find a significant difference in the average size of the personal storage, with men on average having more grain than women. The overall size of the community storage does not differ by players' sex. If we control for SHG membership, however, we find a significant difference: men's community storage is bigger than women's. This implies that there are no differences in terms of the level of

21 The weakness of information collected about the relationship between players did not allow us to test relevant quantitative indicators on the intra-household bargaining or strategy in addition to the qualitative observations.

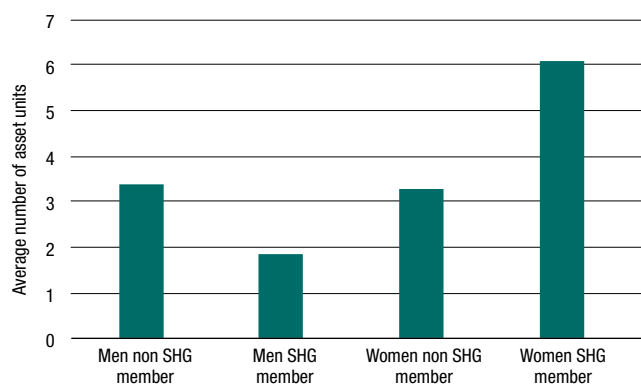
22 While some women stated that their husband would hear their opinions, it was not clear whether this had been brought about by SHGs or by a broader social change and focus on women's empowerment. Even in the cases where women could voice opinions, men invariably took the final decision.

Table 5. Gender-based differences in key indicators of the game

	For people not belonging to SHG (SHG==0)	All players
Individual contribution	No significant difference	Women contribute significantly more than men on average (5 beans for women, 3 beans for men)
Personal storage size	Men have significantly bigger personal storages on average (5 for men, for 4 for women)	Men have significantly bigger personal storages on average (5 for men, for 3 for women)
Community storage size	Men have significant bigger community storages on average (9 for men, for 4 for women)	No significant difference

collaboration among men and women in the community, but SHGs accelerate the pooling of assets. Through this support to pool assets, the SHG aims to reduce existing gender differences in term of relevant investments, but we lack sufficient male SHG members in the sample to test whether the SHG can produce a sex-differentiated effect.

Figure 5. Individual contribution of asset units to the community storage by gender and SHG membership



Source: Authors' calculations.

4.4. Natural capital

Natural capital is an essential component of resilience, especially for farmers whose livelihoods depend directly on the natural environment. Natural capital encompasses communal resources such as clean air, fertile soil, safe drinking water, biodiversity and forest cover. In the case of Wolayita, farmers were grappling with significant stresses on natural capital as a result of a degraded and changing environment, including erosion, poor soil quality, and water scarcity. If natural capital has been described as setting the 'ecological limits for socio-economic systems' (EEA, 2015), Wolayita's farmers appeared to be operating at these limits, particularly in terms of access to water.²³

TDA's training in conservation agriculture intend to improve soil productivity, and in this sense we consider that

it contributes to improved natural capital for individual farm plots, for instance through mulching, preventing erosion, or reforestation. While these practices helped farmers manage natural capital on their individual plots, participants did not describe them as communal activities. SHGs were concerned with water infrastructure, but only one of the villages in the sample had a communal approach to address this. SHGs expressed the desire to continue with conservation agriculture techniques, so additional skills training and support from *kebele* and *woreda* governments could enable them to manage and restore aspects of Wolayita's natural capital on which they depend.

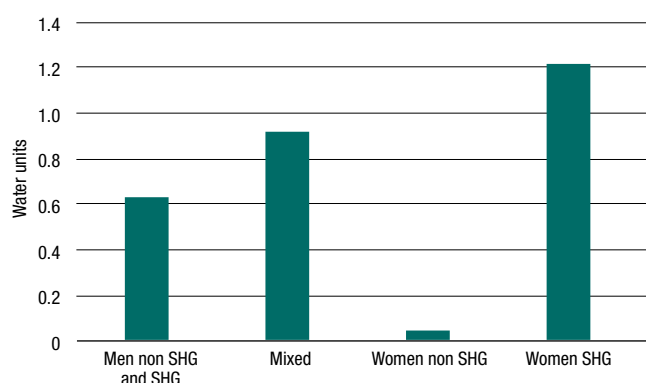
The serious game included a component on water storage, which allowed players to pay into a system that could mitigate the impacts of variable rainfall if managed cooperatively. The water storage was designed to test how players negotiate access to and maintain a communal natural asset. After playing the game across several groups, we found no clear patterns in how players used the water storage. There was evidence that both SHG members and non-members could use water storage cooperatively to mitigate risks. In a few games, when there was not enough in the storage to provide water to all players, players negotiated compensation from the communal savings for players who did not receive water. In one mixed-sex game with insufficient water for all players, players divided water by household, so that all the women could receive water in one round and men received water in the next.

A lack of cooperation over water storage was common, though this seemed to stem more from lack of understanding of game rules and lack of familiarity with the concept of communal water management than from an inability to work cooperatively. In many games, players bought water storage only to leave it untouched during dry seasons when their crops needed water. In the overall sample, players on average used 0.71 drops of water, whereas the game is calibrated to at least two drops per player over the course of game. Moreover, the use of natural resources is statistically different from one group to another (99% confidence level) but results need to be considered with caution regarding

23 www.eea.europa.eu/soer-2015/europe/natural-capital-and-ecosystem-services

the potential misunderstanding of this aspect of the game (see Figure 6). Although facilitators thoroughly explained the purpose of the water storage, it was clear that players still did not always fully grasp how to use and obtain access to this water. This may be because this type of infrastructure was uncommon in the *kebele* visited for this study. Only one *kebele* in the sample had a community-based water-storage tank. In two others, respondents mentioned ground basins covered in plastic where water was captured, but this was something individual farmers did on their own initiative rather than as a group. Other water sources operated on a ‘first come, first serve’ basis and were not managed in a collaborative way that corresponded with the game. Using water for larger-scale crop irrigation, which is possible in the game, was not practised in the study locations. Players themselves attributed underutilisation of water storage to be a simple mistake rather than a lack of familiarity with the concept.

Figure 6. Average number of water units used



Source: Authors' calculations.

Testing behaviours regarding water storage was not a good proxy for how SHG members interact with elements of natural capital other than water. To assess whether and how natural capital is enhanced as a result of SHG activities, there is a need for ecological and biophysical evidence, for instance, on water availability, the physical exposure to climate variation and the development and recovery of water points. Playing the game indicated that SHG members and non-members were all capable of working cooperatively to use natural resources, but it did not tell us about their capacity to enhance natural resources to assure the sustainability of ecosystem services.

4.5. Financial capital and risk diversification

Financial capital as used in this research describes resources in the form of financial flows or stocks that support people's livelihoods. Flows entail, for example, remittances or cash transfers from social safety nets while

stocks can include savings in the form of cash or livestock assets (DFID, 1999). Financial capital can be volatile to shocks, for instance when savings are depleted to meet consumption needs or when people resort to distress sale of livestock after a harvest has failed due to drought.

Risks such as drought can be mitigated through flexible decision-making and appropriate diversification. The latter represents a way to reduce or spread risks across a broader range of financial capitals and economic activities (Shiferaw et al., 2014). Key informant interviews with SHG bookkeepers, game observations and FGDs with SHG members and non-members confirmed the importance of diversification as a mechanism to prepare for shocks and stresses and of flexible rules concerning the use of financial capital.

4.5.1. Financial resource management and flexible decision-making

Saving individually or as a group in community storage was the basic objective of the serious game. These savings could be used as a reserve for difficult times or for investment in crops or livestock, which could generate more savings if invested wisely. Almost all groups, irrespective of their composition, used the community storage to save at some point during the game. Female SHG members, however, placed a greater emphasis on saving than their non-SHG counterparts. Specifically, most women's SHG groups were reluctant to empty their community storage for investment purposes and in some cases even refused to meet social expenses, such as paying for festival celebrations, if that meant using up all the community savings. While this can represent an effective strategy for managing uncertainty, it also risks stalling investment in IGAs (see also section 4.1.). Similarly, women's SHG groups insisted more often than their non-SHG counterparts on the repayment of loans they had previously taken out from the community storage. In doing so, some groups referred to their SHG's by-laws to justify more responsible investment and the enforcement of rules on borrowing.

During the game, players from all groups demonstrated flexibility when they applied rules for saving and borrowing. Sometimes this reflected a sense of fairness, in which stronger players (i.e. those who understood the rules more quickly and took initiative) helped weaker players, but in others it was an opportunity for argumentatively stronger individuals to bend the rules to their advantage. In some such instances, when players decided to pay collectively into the community storage, the amount they contributed corresponded to their wealth. In other cases, loans or gifts were more readily given when people experienced idiosyncratic shocks such as sickness or wedding expenses. These flexible practices are part of SHG operations that are also beyond the game, as an SHG bookkeeper explains: *'If members have no money [to contribute weekly savings], they should still come and attend and then contribute the money the following week. If they don't come, we mark their*

absence and they have to pay a fine of 1 Birr' (KII, SHG bookkeeper, Galda). Similarly, SHG members who struggle to pay back loans with interest can present their case to the group. These cases are discussed and, if considered to be fair, interest may be waived and periods for repayment extended. SHG members also highlighted the speed in which the SHG can provide funds in case of emergency: *'When emergency or human sickness occurs, if we borrow from MFIs it's a long process to get money. In the case of SHG, the money is easy to access'* (KII, SHG bookkeeper, Dada Kare). Some SHG bookkeepers also described how their group tolerates or explicitly allows members to take out loans for household consumption during periods of exceptional drought, even though these were not allowed during normal times according to SHG by-laws in most of the SHGs in the sample.

In FGDs, SHG members underscored the greater flexibility these mechanisms provide in comparison to MFIs or local money-lenders, who are not willing to adjust repayment schedules based on individual fate. Whereas default repayments to an MFI or money-lender left many people in debt or caused them to lose land titles and other assets they used as collateral to obtain the loan, SHG members report that the groups' relatively lower interest and greater flexibility was a form of relief. Some respondents who had benefited from SHG loans pointed to the greater security and reduced psychological stress since they had stopped going to local money-lenders: *'The one we ask is a rich man [who] has lots of property. I can go many times to a household, and sometimes they are willing to lend money or sometimes not willing. After we take [the] money, nobody sleeps that night. Everyone is nervous. If we can't pay on the deadline, we lose livestock, land, assets. Now, before we go to a money lender, we ask from SHGs'* (FGD, mixed group, Sere Esho).

Despite their advantages for buffering shocks, loans for consumption, low interest and flexible repayment can also stall investment and prevent or slow down growth within the group, as one SHG bookkeeper points out: *'We didn't clearly allow people to take loans for household consumption, but we encouraged them to invest in IGAs to protect the group from failure'* (KII, SHG book keeper, Gale Wargo). This view, however, was an exception in the sample, and most SHGs allowed loans for consumption from their main fund for individual emergency cases.

4.5.2. Diversification

The game simulates different types of shocks and stresses, including idiosyncratic events such as sickness or weddings, as well as covariate events like prolonged dry periods and destructive floods. However, many players across all groups did not understand the weather-related risks and their relation with the seasons and the forecasts they were given. Investment decisions were often unrelated to weather considerations. Some of this may be related to a mismatch between what 'good investment' means economically and

culturally in real life and what it represents in the game. For instance, investing in livestock was often the first priority for players after having accumulated some wealth in the game, irrespective of seasonal implications for costs and survival. Other players insisted on specialising in pastoralism or trade instead of diversifying. At the same time, FGDs implied that people were not usually obtaining forecasts as a basis for taking real-life investment decisions and relied on spiritual guidance or prayer instead, which could be a reason for their unfamiliarity with this concept.

In other cases, considerations of risks determined decisions and diversification in the game, especially motivating people to sell livestock before dry seasons. Though there was some diversification, very few players pursued it as a clear strategy, either individually or splitting investments and funds as a couple in the mixed groups. The quantitative indicators from the game confirmed these observations. There were no clear statistical differences in terms of individual or group decisions regarding diversification. We found no differences with regard to the proportion of individuals investing in both livestock and crops between the groups, nor differences in diversified investment at group level.

In FGDs, SHG members and non-members alike report a high dependence on ex-post coping mechanisms, meaning those mechanisms adopted after experiencing shocks such as droughts or floods. These include sale of livestock, migration, reliance on government safety nets or church support and encouragement from other household or community members. Unlike women non-member respondents, some SHG members describe preparatory measures that help them cope and recover. Most importantly, these entail savings built up through weekly contributions to the SHG. Members draw on these funds in cases of emergency or use them to undertake additional IGAs. Some women have diversified their livelihoods through loans and additional training they received as part of the SHG. Women, for instance, started to grow garden vegetables, raise chicken, or engage in petty trade, even though respondents highlighted that older women were often more limited in their ability to branch out into these new endeavours.

These IGAs, along with the new ways of managing finances now available to women through SHGs, support greater independence and women's economic empowerment. As a CLA representative describes: *'We used to ask husbands, or we would go to local money lender to pay loan if our cow gives us milk or butter. Now we save our own resources, we don't have to ask our husbands and can take loans'* (KII, CLA representative, Sere Esho). Though SHG members reported diversifying their livelihoods, many of the additional activities are based on agriculture or pastoralism, depend on rainfall and are therefore exposed to similar climate- and weather-related stresses. Most IGAs thus strengthen SHG members' income and represent livelihood diversification,

but do not necessarily contribute to diversifying risk. The exception was petty trading, which provided additional support to some women, especially younger ones, during the drought. Petty trading was undertaken by individuals or as a group activity. Many SHGs purchased bulk foods such as *teff* or butter when prices were low and re-sold them on the market at higher prices. This activity had an additional function for enhancing food security beyond income generation. Stored food items were available to SHG members at the original purchase price, making them less exposed to market price fluctuations and strengthening their food supply throughout different seasons.

Overall, diversification was important for food security through emergency consumption loans, savings and storing. TDA also promoted conservation agriculture and diversified production as another mechanism to achieve greater resilience and food security through SHGs. Some members reported engaging in vegetable gardens since joining a group. Although this allowed them to harvest some additional produce, vegetable gardening is water-intensive and highly vulnerable to drought. As one SHG member said, *'We have tried [growing vegetables], but the sun destroys most of it. Still, we collect a bit from our gardens'* (FGD, SHG member, Gale Wargo).

4.6. Political capital

Political capital, in the context of this study, describes people's ability to enhance resilience by using power for the pursuit of economic or political positions (Baumann and Sinha, 2001). While it was not explicitly measured in the serious game, evidence of strengthened political capital came out strongly in FGDs and interviews with SHG members, CLA leaders and *kebele* chairmen. When an issue demanded governmental attention, CLAs represented the SHGs by approaching *kebele* officials to advocate on behalf of the SHG members. There was early evidence that the collaborative action in SHGs and CLAs can enable advocacy in this way, and CLA members reported contacting *kebele* officials about community development issues (see section 4.2. on linking social capital). However, political capital did not evolve in a strategic manner in Wolayita, but was mostly developed in an ad hoc manner for these isolated topics.

Outside SHGs, approaching *kebele* officials about important issues was perceived far less as a feasible or desirable strategy. Some people considered approaching officials more as 'beggarly' than grassroots democracy. In the FGDs, non-SHG members, for instance, described how *'only the very poor go to seek support from the Kebele'* (FGD, Sere Esho). Others seemed unsure about the role of

kebele authorities and were inexperienced in addressing them, as one woman explains: *'We know nothing about [approaching Kebele leaders]. We always pass our days in the weeds. That is all we know'* (FGD, Gale Wargo). Several respondents also seemed disillusioned with local authorities, claiming that officials did not listen or react to their requests. Some reported being mocked or feeling powerless, as they had no means to exercise political pressure and noted that they depended on the good will of the government to respond.

These attitudes were in stark contrast with testimonies from SHG members, who expressed much greater confidence in being able to approach local authorities and in their responsiveness. This feeling of political empowerment seemed to be partially based on positive advocacy experiences. Two SHG members, for example, reported that their groups had managed to maintain local roads by demanding this from the *kebele*. In addition, SHG members emphasised the power of numbers and support from the SHG and CLA network in their advocacy efforts: *'We have become a voice now and we ask them about community development activities. The CLA structure is helping us to be heard. There is discussion about forming a community development centre. This will help make us stronger'* (FGD, SHG member, Gale Wargo).

In Dada Kare *kebele*, the CLA had built such a strong relationship with *kebele* officials that the *kebele* donated land on its request. With this land, the CLA was building an office where they could base their operations and undertake IGAs to bolster the SHGs' collective resources. The *kebele* was invested in the success of their endeavour, donating wood and other building materials. The officials respected the development work that the SHGs were leading and were willing to match their efforts with public resources. Lastly, the revolving door between *kebele* administrations and SHG membership is another strong indicator of the political clout SHGs have developed. When *kebele* officials join SHGs, or SHG members are elected to local office, they further strengthen these ties (see section 4.2. on linking social capital). These accounts indicate how SHGs and CLAs can leverage their position to advocate for pro-poor policies, which can improve community-level resilience if these positions are inclusive of those within and outside SHGs.

The prevailing dominance of men in positions of power may, however, create boundaries for women's political empowerment. Local partners highlighted that there was one *kebele* chairwoman in the study districts, but most political offices appeared to be dominated by men, with the exception of special women's committees and women's health-related positions.

5. Discussion and reflections

5.1. Revisiting the hypotheses

This chapter discusses how findings relate to the five hypotheses drawn from Tearfund's ToC. For a reflection on the methodology used in this study, see Annex 4. There is strong evidence that SHGs make a positive contribution to women's empowerment, social capital and risk diversification, while advancements in natural capital and deeper changes in gender roles at the household and community levels were less pronounced. SHGs showed clear limitations in their capacity to effectively address covariate shocks, especially if they are intense and sustained, such as the current drought.

5.1.1. SHGs empower members, especially women, and help them to strengthen diverse assets

In the Ofa and Kindo Koysha districts, SHGs enabled women to develop different capacities, but their empowerment was better enhanced in some areas than in others. Access to financial services was a key component that was enhanced through SHGs. Women could undertake IGAs as individuals or as groups, allowing them to build independent financial resources. Some men also explicitly approached their wife for financial support, which had not previously been heard of. SHGs also provided a new mechanism to institutionalise existing relationships and to pursue common actions, thus strengthening limited levels of social and political capital. However, women do not necessarily have the final decision-making control over these diverse assets in the household and SHGs have not brought about a dismantling of patriarchal structures in households and communities. Acknowledging that this requires behavioural and cultural change over long periods of time, women's development of diverse capacities and stronger networks through SHGs, together with broader social change, is a first step towards greater empowerment and towards enhancing their resilience in the long run.

5.1.2. Participation in SHGs improves social cohesion, builds norms of reciprocity and supports social capital

Social support and reciprocity among community members had been high even before the introduction of SHGs in Wolayita (see section 4.1. on SHGs as grassroots social

protection and section 4.2. on social capital). While these concepts were not new, SHGs presented additional mechanisms to channel support and allowed members to expand their social capital, for instance by grouping SHGs at cluster level (bridging) and by reaching out to other institutions (linking), most notably the *kebele* leadership. Despite these political linkages, some SHGs and CLAs appear to operate below their potential with regard to establishing closer links with other actors. These may include commercial banks, eventually enabling access to larger-scale financing at the group level, insurance companies, cooperatives or traders. While Tearfund is currently piloting group access to MFI loans in other areas of Ethiopia, such systematic links have not been established in Wolayita.

5.1.3. SHGs enable members to adopt risk-diversification behaviours

Many SHG members we spoke with during the study had diversified livelihoods or agricultural practices towards planting a greater variety of crops or using more adaptive methods. Nevertheless, many of these new activities are exposed to similar environmental hazards as traditional agriculture and pastoralism. An emphasis on savings and branching out into new fields, including petty trading, were some ways for SHG members to better diversify risks. Overall, SHG members appeared to prepare more than non-members for future shocks. Diversification in food supply structures – planting different varieties, storing foodstuffs for later sale or consumption and allowing loans for consumption during extreme events – seemed to contribute to higher levels of food security among SHG members in times of covariate shocks. Even though we did not assess quantitative indicators of food security as part of this study, SHG members and non-member statements, along with Tearfund baseline data on food security, reinforced this impression.

5.1.4. SHGs support conservation efforts and efficient management of natural resources

Ecological conservation as such was not a priority in any SHG in the sample, but TDA promoted conservation agriculture, including practices like mulching, was promoted as an adaptive strategy. SHGs facilitated learning about these practices by hosting training

sessions TDA had offered them. In general, very few SHGs in the sample had requested training on their own initiative. However, those they mentioned to be most interesting related to conservation agriculture or vegetable gardening, indicating farmers' concerns about the vulnerability of agricultural production to weather extremes and the changing climate (even though it is not entirely clear whether this interest was inherent in the group or spurred by TDA's promotion of sustainable organic agriculture and conservation agriculture). Communal management of natural resources was not usually practised in the study areas, but some CLAs or SHGs engaged in collaborative advocacy to lobby local authorities for better access to water. Given that water tanks or basins are an expensive investment for individual households, communal resource management through SHGs may be an efficient strategy to strengthen water supply in the future, but there is a need for additional mechanisms for the sustainable management of other natural resources and ecosystem services.

5.1.5. SHG members address covariate shocks through collaboration within, between and beyond groups.

As sections 4.2. on social capital and 4.5. on financial capital highlight, mutual support and access to readily available financial support on flexible conditions in SHGs helps members to grapple with idiosyncratic shocks. With some SHGs allowing loans for household consumption during times of drought and all of them introducing access to flexible finance, SHG members also seemed in a better position to cope with covariate shocks than non-members in the Wolayita study locations. They were also more likely than non-members to engage in ex-ante risk-management activities, for instance storing foodstuffs or accumulating emergency savings. In large part, SHGs improved their members' resilience because they cut out predatory money-lenders or inflexible MFIs and introduced a culture of savings, allowing people to communally manage their own capital and set their own terms for obtaining loans. Avoiding debt from predatory money-lenders or inflexible MFIs falls outside the conventional narrative of 'shocks and stresses'. However, this misses an essential component of why people are not resilient when there is a large, adverse climatic event, as debt can amplify the impacts of external shocks and impose additional stress on already struggling households.

Though CLAs occasionally offered additional help to some individual members, they were generally limited to providing moral support and encouragement to SHGs in situations that affected their entire membership. We also observed clear limitations of SHG capacities in the face of covariate shocks, especially related to the on-going drought, as SHGs did not (yet) have the means to install water-storage facilities, explore new water sources or develop irrigation systems.

5.2. Reflections on the conceptual framework and SHG approach

Emphasising the development of livelihood capitals for strengthening resilience and contributing to food security, our conceptual framework (Chapter 3) does not consider institutional stability and resilience of the SHGs and their CLA networks. In addition, it neglects the SHGs' social safety net function that turned out to play a strong role in enhancing resilience to idiosyncratic and covariate shocks throughout the course of the study. This section picks up on both aspects and discusses institutional resilience along with the implications of social protection through SHGs for their members and the wider communities.

5.2.1. Institutional resilience

SHGs are genuine 'institutions from below', a kind of local organisation that unites the poor in such a way that they can create economic capital together and nurture new kinds of social support. While SHGs were originally introduced by NGOs, we encountered groups that had self-formed, sometimes from husbands of SHG members, sometimes from other community members who had heard of the approach. SHGs in Wolayita demonstrated a strong sense of ownership and a desire to (and record of) invest in their household and the wider community. Their bottom-up nature facilitates the longer-term sustainability of the SHG approach. Some members called their SHG an intergenerational asset that would be passed onto children so that they can continue using and growing the group's capital.

From a resilience perspective, SHGs' bottom-up nature can also be a drawback, however. SHG members are able to address each other's needs, but are limited in their ability to tackle adverse events when all members are badly affected by high-intensity and sustained covariate shocks. In this research, we did not observe any SHGs that collapsed during the drought, but increasing climate stress makes this risk all the more salient. SHGs are only as strong as their members' ability to adhere to by-laws and regular saving practice, and when members default on loans or skip savings, the SHG itself may crumble.

Though SHGs may be 'institutions from below', the creation of CLAs did not emerge organically from SHG self-organisation. Without stronger ownership, CLAs may not have the same longer-term sustainability advantages as SHGs, though ironically, they are a key component of the sustainability of SHGs themselves. CLAs served an important function to oversee SHGs record-keeping, solve disputes, redistribute resources, and liaise with local governments. Because of their sophisticated support role, CLAs have required more outside support to maintain their responsibilities. Long-term, more intensive backstopping to CLAs through TDA or the establishment of other collaborative links may ensure that SHGs themselves remain resilient to the challenges they face. Finally, some respondents highlighted the lack of clarity regarding the legal status of SHGs and CLAs as a constraint to engaging

in formal business with third parties. More attention to the legal recognition of SHGs and CLAs may also be crucial for the groups' sustainability in the long term, and prevent the approach from falling foul of Ethiopian authorities.

5.2.2. SHGs and social protection of members and the wider community

In the conceptual framework, resilience comprises different livelihood capitals. This understanding of resilience is analytically helpful, but it does not explicitly highlight the central role of social protection in the SHG approach. If resilience is boiled down to its most basic function – the capacity to cope with shocks and stresses – SHGs' purpose as a form of informal social protection makes a strong contribution to members' ability to do just that. When asked about what has changed in their lives since joining SHGs, the most common response was almost without fail, *'I can pay for medication or care when someone in my household is sick'*. Access to flexible loan conditions, or

direct financial or in-kind support, helped protect members from the worst impacts of idiosyncratic shocks and alleviated their struggles during covariate shocks.

The effects of SHGs on the resilience of the wider community were harder to grasp. Although some reported helping vulnerable community members, a culture of mutual support pre-dated the introduction of SHGs. In the long run, group members may be able to build a sufficient asset base, allowing them to provide social safety on a larger scale to the wider community, but this depends on the SHGs' success and the priorities they set in the future. At the same time, the rules defining SHGs' operations may restrict access for some, such as older people who are not able to contribute weekly savings. This situation may create new exclusions and inequalities, especially considering the potential political clout of SHGs. SHG advocacy efforts could draw authorities' attention towards members' issues and away from the problems of more vulnerable or less outspoken people who cannot join SHGs.

6. Conclusions

Focusing on women's SHGs in the Wolayita district of Ethiopia, this research explored causal links between the SHGs and the resilience concept. In line with Tearfund's project approach, resilience and food security of SHG members in protracted crises were at the core of the study. Researchers adopted an innovative serious game along with FGDs and KIIs to capture the views and behaviours of SHG members and non-members and collecting insights from group leaders and local authorities.

In the context of the study, SHGs were found to be a mechanism for women's empowerment, enhancing their access to flexible financing and strengthening their economic capacities and options for engagement in IGAs. In addition, SHG members could expand their social networks to link up with other groups and establish contact with local authorities. Although this increased women's voice in economic, social and political terms, it did not entirely transform pre-existing structures and behaviours concerning decision-making in the household. Access to loans and participation in training through SHGs allowed members to undertake new IGAs and diversify their livelihoods. It was harder to diversify risk, however, as most economic strategies depended on agro-pastoral activities. SHGs encouraged members to engage in adaptive and preventive measures such as saving or storing food items, enabling them to better cope with shocks than non-members in the community. This was especially the case for idiosyncratic events, whereas effectively addressing covariate shocks such as droughts, floods or hailstorms were perceived as beyond the current capacity of SHGs.

Based on the study's findings, the following recommendations aim to support the SHG approach in its long-term ability to strengthen resilience and food security in Ethiopia:

Link SHGs grassroots social-protection mechanisms with Ethiopia's formal social-protection programmes. A few *kebele* officials in Ofa and Kindo Koysa were already encouraging their constituents to join SHGs. If *woreda* and *kebele* governments were to promote the SHG approach to PSNP recipients nearing graduation, there would be the potential to enhance the sustainability of PSNP asset gains (see section 4.1. on grassroots social protection). PSNP is designed to address food insecurity, but it does not include risk-pooling mechanisms for other stresses on recipients' livelihoods. Recipients are still exposed to idiosyncratic risks that sometimes force people to resort to asset sales. SHG members were able to support each other in the face of diverse idiosyncratic shocks and

costly social obligations, and they were less dependent on money-lenders and MFIs, which charge high interest rates or fees. Women who had participated in both PSNP and SHGs stated that the latter gave them the confidence to take out loans and use them productively. PSNP graduates also stressed that SHG meetings continue year-round (whereas PSNP activities are seasonal). *'Being in a SHG support system has more advantages for us than staying in PSNP. In SHGs we meet on a regular basis and can get loans easily. The support mechanism is always continuing'* (Mixed FGD, Galda).

Focus on women's empowerment beyond SHG participation. Participants' cooperation during the game and their testimony in FGDs underscored the advances in economic, social and political empowerment that women had achieved through SHG membership. Nevertheless, there were few women in *kebele* leadership positions and local project staff. A greater gender balance and more empowerment in the institutional and supportive environment to SHGs are important in order to incorporate women's perspectives and women-specific issues into programming and activities. Tearfund and its partners could address this by facilitating gender training for project staff and local facilitators and proactively seeking women to work with SHGs. In addition, SHGs can provide a platform for working to address cultural and social gender norms in the wider community. Ideally, this approach would help to raise awareness and reduce structural inequalities, and so boost SHGs' core functions. Finally, the research highlighted that one of the key constraints for women's empowerment was the low level of literacy. Facilitating literacy training through SHGs or CLAs or linking groups with external providers of such training should therefore be a key priority for any organisation working with women's SHGs.

Develop a more strategic approach for how to engage with people who leave SHGs. Several respondents explained that they had previously been SHG members but had left, usually during the first few months, because they could not keep up with the weekly savings. This seemed mainly to concern older women, who did not engage in IGAs and so did not have the necessary cash to participate in SHGs. There was no consistent strategic engagement with these women by the programme or its local staff and facilitators. Considering that the SHG approach in Tearfund's conceptualisation aims to strengthen the resilience and food security of the poorest and most vulnerable among the population, these involuntary

drop-outs require specific attention. Establishing closer interaction with the PSNP, i.e. facilitating transition between both approaches, putting more focused support mechanisms in place or encouraging members of more established SHGs to provide start-up support for people who are initially unable to save could be strategies for Tearfund and other international and national NGOs to increase the resilience of the most vulnerable.

Monitor shifting power structures and prevent adverse effects. Related to the previous paragraph, SHGs can influence power relationships and structures in households and communities. As SHG members build diverse sets of assets and deepen or branch out into social, as well as political networks, non-members may perceive they are at a disadvantage. Where *kebeles* are responsive to SHG demands, other people in the community could end up with less political influence or receive less government attention. Consequently, as SHG political buy-in grows, there should be a corresponding focus on what this implies for the resilience and food security of these populations. Regarding the status of women in particular, Tearfund should carefully monitor how women's empowerment affects their position in the household and their potential exposure to domestic abuse.

Increase the emphasis on disaster risk management (DRR) in group training and sensitisation and programme decisions. This and other research has shown that SHGs are well situated to support members when they face idiosyncratic shocks, but are limited in their capacity to buffer impacts in cases where the entire community is affected, for instance during the current drought. We also found that SHG members took more measures to prepare for potential shocks and undertook activities to strengthen and stabilise their consumption throughout

different seasons. Respondents in Wolayita described natural hazards such as droughts, floods and hailstorms as the most detrimental covariant stresses. Yet neither SHG members nor non-members in the study had consistent access to forecasting and early-warning information. Based on their social network function and the adaptation and preparedness measures already used by the groups, SHGs can provide an efficient channel for distributing such information and for promoting other risk-management measures. Tearfund, partner institutions such as TDA and other (I)NGOs working in DRR and resilience should explore these mechanisms. Where government systems for early warning already exist, linking these with SHGs could increase the reach and the effectiveness of disseminating such information. In addition, formal risk-transfer approaches, such as disaster risk insurance at individual or group level, may be assessed in a cost-benefit analysis as a further potential option for strengthening SHGs' contribution to building resilience against covariate shocks.

Assess additional links between behavioural change and resilience. The innovative research undertaken with SHGs opens the possibility of further investigation on the contribution of such resilience-building activities to behavioural changes more broadly. It highlights the complexity of assessing an impact on resilience at household and community levels. In addition to exploring these links in more depth in different contexts, there is a need for more research to explore how SHG activities focusing on managing livelihood risks can serve as leverage for sustainable economic development. These analyses would support a better understanding of the place of activities aiming to strengthen resilience in climate-resilient development.

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Annex 1. Potential contributions from SHGs towards building multidimensional assets to support resilience

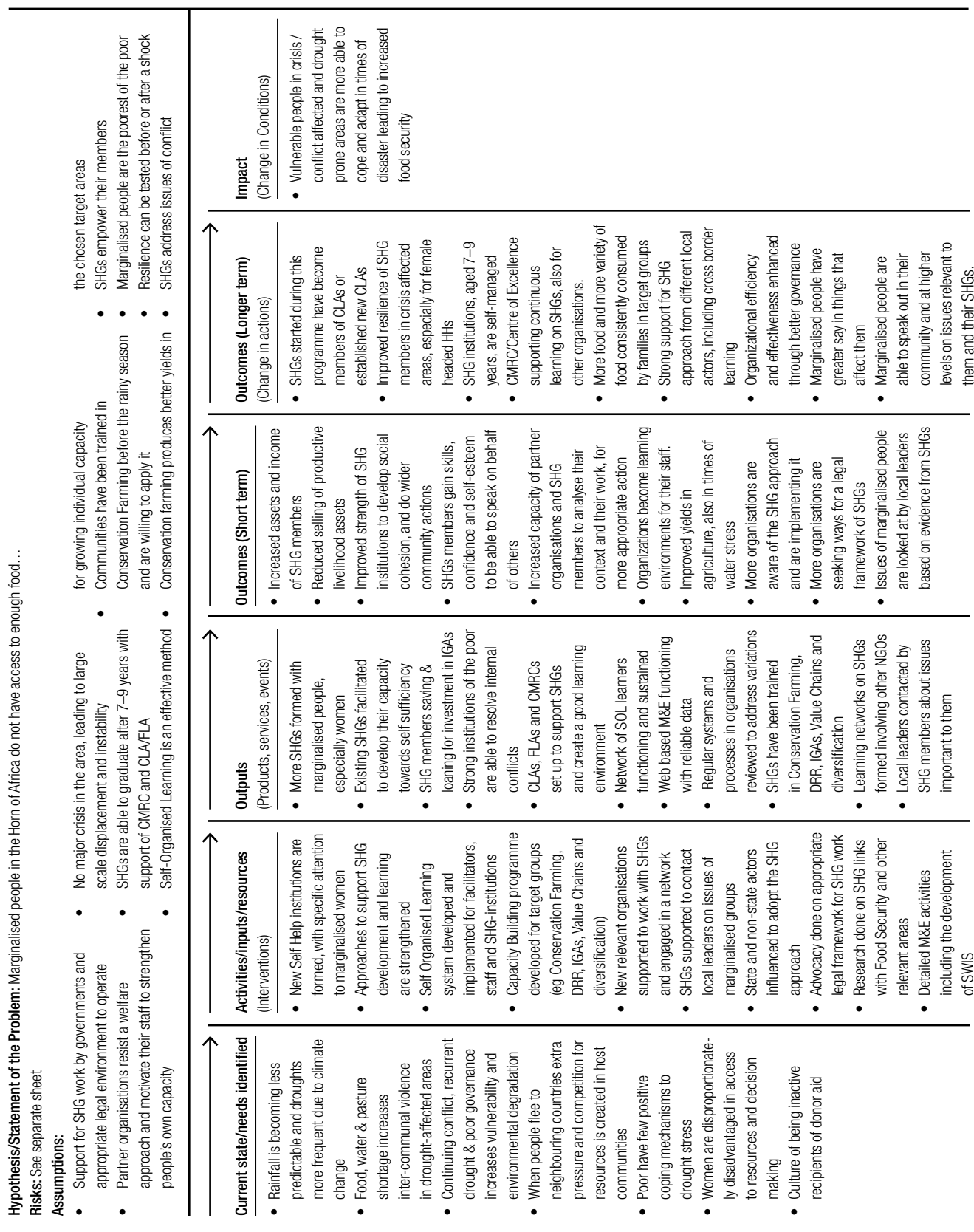
Table 6. Potential contributions from SHGs towards building multidimensional assets to support resilience

	Individual level	Intra-household level	Community level	Beyond community level
Financial / Economic	<ul style="list-style-type: none"> • Accessing credit and savings at low interest for investing in livelihood activities • Strengthening and diversifying assets and livelihoods • Developing financial management skills • Establishment of a 'savings culture' • Financial safety nets • Improved productivity • Increased input to other microfinancial services • Increased assets and income of SHG members • Reduced selling of productive livelihood assets 	<ul style="list-style-type: none"> • Sharing economic and financial roles and responsibilities 	<ul style="list-style-type: none"> • Channelling emergency cash transfers or insurance 	<ul style="list-style-type: none"> • Establishing group/community links with other (financial) services such as MFIs through CLA and FLA
Social	<ul style="list-style-type: none"> • Strengthening bonding social capital and relationships of familiarity, reciprocity and trust • Social safety nets • SHG members gain skills, confidence and self-esteem to be able to speak on behalf of others • Marginalised people have greater say in issues that affect them 	<ul style="list-style-type: none"> • Supporting women's empowerment • Shifts in gender relations: work share, consultation, joint responsibility, solidarity, influence, recognition capacities, confidence and mobility 	<ul style="list-style-type: none"> • Bonding and bridging social relationships (through CLA and FLA) • Trust / Social cohesion • Strengthening SHG institutions to develop social cohesion, and do wider community actions • Supporting women's empowerment through advocacy, activism and intervention 	<ul style="list-style-type: none"> • Linking social relations (with outside actors and institutions) • Enhanced voice and leverage to build ties and lobby with (local) government • Increased capacity of partner organisations and SHG members to analyse their context and their work, for more appropriate action
Natural	<ul style="list-style-type: none"> • Sustainable and climate-sensitive practices • CCA and DRR awareness and support • Efficient management of natural resources • Improved yields in agriculture, also in times of water stress 	<ul style="list-style-type: none"> • Shifting roles and responsibility with regard to acquiring natural resources and undertaking agricultural activities 	<ul style="list-style-type: none"> • Enhancing management of natural resources and sustainability (adaptive investment) 	<ul style="list-style-type: none"> • Empowerment to claim land and resource rights
Human / Spiritual	<ul style="list-style-type: none"> • Increased expenditure on health, nutrition and education • Increased self-confidence and capacity to discuss / learn within the group • Education and development of skills and knowledge (including literacy) 	<ul style="list-style-type: none"> • Supporting household wellbeing • Enhanced recognition and self-confidence • Prevention of child labour • More food and greater nutritional variety consistently consumed by families in target groups 	<ul style="list-style-type: none"> • Increased community wellbeing 	<ul style="list-style-type: none"> • Organisations become learning environments for their staff
Technical / Physical	<ul style="list-style-type: none"> • Savings and loans for business equipment and infrastructure 	<ul style="list-style-type: none"> • Savings and loans for household items, housing, sanitation and necessities 		<ul style="list-style-type: none"> • Increased leverage for negotiation
Political	<ul style="list-style-type: none"> • Strengthening of political awareness and knowledge / skills 	<ul style="list-style-type: none"> • Strengthening women's political voice and empowerment 	<ul style="list-style-type: none"> • Political empowerment of women and other marginalised populations • Marginalised people are able to speak out in their community and at higher levels on issues relevant to them and their SHGs 	<ul style="list-style-type: none"> • Leverage towards governments and law enforcement through CLA and FLA • Issues of marginalised people are taken into account by local leaders based on evidence from SHGs

Source: Adjusted and fit to SHGs (instead of focusing on microfinance) from Hammill et al. (2008) and Frankenberger et al. (2012a); based on Tearfund – HoA – Theory of Change and Lawson-McDowell et al. (2016); aspects marked in red are shorter- and longer-term anticipated outcomes cited from Tearfund's ToC (in addition to the outcomes highlighted in the table, Tearfund emphasised the spread and stabilisation of the SHG approach as outcomes of its project activities).

Annex 2. Tear Netherlands Theory of Change

Mission: In partnership with the Dutch government and other partners develop the SHG approach to build peaceful and resilient communities for marginalised people in the Horn of Africa



Vision: In combination with other partners contribute to a population in the Horn of Africa which is able to provide for its own food needs, also in times of crisis, to live healthy lives.

Tearfund Theory of Change outcomes and hypotheses of the research

1. ‘SHG members [are] saving and loaning for investments in income generating activities’ (output); and ‘SHG members have been trained’ (output) leads to: ‘SHG members gain skills, confidence, and self-esteem’ (short-term outcome);

Hypothesis 1.: SHGs empower members, especially women, and help them to strengthen diverse assets.

2. ‘SHG members [are] saving and loaning for investments in income-generating activities’ (output) leads to ‘improved strength of SHGs to develop social cohesion’ (short-term outcome);

Hypothesis 2: Participation in SHGs improves social cohesion, builds norms of reciprocity and supports social capital.

3. ‘SHG members are trained through capacity building programmes’ (output) and ‘SHGs have been trained in [...] Diversification’ leads to risk diversification behaviours.²⁴

Hypothesis 3: SHGs enable members to adopt risk-diversification behaviours.

4. ‘SHGs have been trained in conservation farming, DRR, IGAs, Value Chains and Diversification’ leads to ‘improved yields in agriculture, also in times of water stress’ (short-term outcome).

Hypothesis 4: SHGs support conservation efforts and adaptive management of natural resources.

5. One of the key desired long-term outcomes, according to Tearfund’s ToC is improved resilience to shocks

and stresses, but in order to understand how SHGs can support this aim, we need to consider the different natures of shocks. Therefore, we look at whether idiosyncratic and covariate shocks are managed in the same way, and whether SHGs play a role in helping participants cope with both.²⁵ In the absence of an explicit distinction between different shocks in Tearfund’s ToC, we draw on insight from the fields of risk research and social capital to form assumptions about this relationship. Bernier and Meinzen-Dick (2014), for instance, highlight the importance of building comprehensive social capital – bonding, bridging, and linking – to access resources beyond the community and establish ties with outside institutions. In times of crisis, these relationships may support greater resilience against covariate shocks compared to inward-oriented groups. Tearfund reflects these vertical ties through the establishment of cluster-level (CLA) and federation-level (FLA) umbrella associations. ‘CLAs, FLAs and CMRCs set up to support SHGs and create a good learning environment’ (outputs) and ‘SHGs started during this programme have become members of CLAs or established new CLAs’ (longer-term outcomes), along with ‘strong support for SHG approach from different local actors, including cross border learning’ (longer-term outcomes) thus support the capacity to cope with covariate shocks. **Hypothesis 5: SHG members address covariate shocks through collaboration within, between and beyond groups.**

²⁴ Importantly, risk diversification is not *explicitly* mentioned in the ToC. However, diversification of livelihoods and income generation are major components of SHG capacity-building programmes, and thus the third link assesses the assertion that ‘SHG members gain skills’ that make them better equipped to deal with shocks and stresses by adopting risk-informed behaviours.

²⁵ We define the possibility for an individual to be specifically affected as an idiosyncratic risk, while a covariate risk may affect a larger group or community overall.

Annex 3. Statistical analysis of contribution to behaviours

Table 7. Test for equality of six groups means

	Statistic	F(df1,	df2)	= F	Prob>F	e
Wilks' lambda	0.8156	5.00	334.00	15.11	0.0000	e
Pillai's trace	0.1844	5.00	334.00	15.11	0.0000	e
Lawley-Hotelling trace	0.2262	5.00	334.00	15.11	0.0000	e
Roy's largest root	0.2262	5.00	334.00	15.11	0.0000	e

Source: Authors' calculations.

Note: 'e' = exact. The six groups are: men non-SHG, women SHG, women non-SHG, men SHG, mixed non-SHG, mixed with women SHG.

Table 8. Test for equality between group of women in SHG (2) and women not in SHG (1)

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
1	74	2.513514	0.4028054	3.465063	1.710723	3.316304
2	88	6.840909	0.7841638	7.356108	5.282299	8.39952
Combined	162	4.864198	0.4929148	6.273781	3.890785	4.83761
Diff.		-4.3274	0.9318009		-6.16761	-2.48718

diff = mean (1) - mean (2)
Ho: diff = 0

t = -4.6441
degrees of freedom = 160

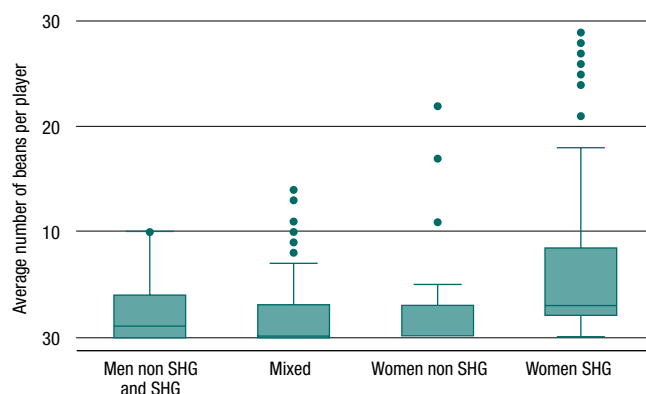
Ha: diff < 0
Pr (T < t) = 0.0000

Ha: diff ! = 0
Pr (|T| > |t|) = 0.0000

Ha: diff > 0
Pr (T > t) = 1.0000

Source: Authors' calculations.

Figure 7. Variance in individual contribution to the community storage by groups



Source: Authors' calculations.

Annex 4. Discussion on methodology

Playing the game raised a number of issues that were relevant to people's lives – and their experience of SHGs – but that would not necessarily have been revealed by traditional survey methods focused on impact evaluation. The participatory nature of the game encouraged players to start conversations, ask questions, and relate their personal experiences. Observing these side conversations and behaviours was an opportunity for facilitators and enumerators to start dialogues about a range of topics – intra-household dynamics, national safety net programmes, predatory lending methods, water scarcity and drought, in-kind and cash-saving practices, and the multitude of traditional and new ways people supported each other in times of difficulty. The answers were revealing, and often challenged assumptions that the project staff had long accepted. Though most of the information staff received from the game was not new, the game revealed nuances in people's experiences that helped the team reflect on the ways to connect their work to complex challenges people faced.

In a feedback session with the team, project staff commented on how the game required a different way of listening to participants to understand motivations for why and how people save. The simple act of *listening* to people, and moving away from tired survey answers that can elicit stale responses, helped staff to value people's experiences and understand more systematically some of the ways that their lives were affected by shocks and stresses. Staff described playing the game as empowering in and of itself – providing people a platform to learn from each other and share their stories. Staff were keen to use the game in their future work, and were weighing different options for how best to do so.

Participants repeatedly described the game as a learning tool. The vast majority of players described the game as corresponding 'exactly' to village life, and as a useful method of showing them the benefits of saving in groups to deal with recurrent (and sometimes unpredictable) stresses. The game itself was not designed to be a programmatic

tool to get people thinking about how SHGs function and the benefits of joining one, but the act of simulating six years of agro-pastoral livelihoods through the game proved to be a simple way to demonstrate how committed saving practices and lending together could enable people to thrive. For non-SHG members, the game helped clarify misconceptions about savings and got some people interested in joining a SHG. Players who were already SHG members described how the game helped 'reinvigorate' their savings practice, and recommitted them to their collective savings goals.

Though data collected through the game is useful for researchers and evaluators, its dynamics are undeniably subject to the individual participants. In Ethiopia, we observed how dominant personalities can overwhelm decision-making processes in games with both SHG members and non-members. Playing the game at different times with the same participants would make it possible to control for personality differences, and to generate a more comparable picture on how decision-making processes and collaboration have changed over time as a result of SHG membership. Ideally, playing the game towards the beginning of a SHG formation and again after the group has been active for some time would provide a useful basis for understanding what kinds of social change SHGs have (or have not) helped achieve.

'Learning' is often the least tangible element of the 'Monitoring – Evaluation – Learning' trinity, but the game was a learning experience for everyone involved – project staff, participants, and research team. Information generated through the game, however, should be triangulated with KIIS and FGDs to validate the relation between game and real life and to examine in more depth the context in which the players make decisions and the factors that influence their behaviours. Whether played only once or several times, the process of playing instigates a learning process that can inform project design, improve understanding of savings dynamics, and raise awareness of the SHG concept in communities.



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