Gender Transformative Approaches – a silver bullet for gender equality?

Investigating the effects of the GALS methodology on gender transformative change for coffee smallholders, as implemented in the Circular Coffee Project in San Martín, Peru

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Abstract

Despite many years of development work on gender inequality in global agricultural supply chains, there are still significant gaps that prevent gender equality from being achieved. Recent feminist literature has critiqued symptomatic approaches to gender and called for the use of Gender Transformative Approaches (GTAs) in this field, to tackle the underlying, root causes of gender equality, namely, social norms, and hegemonic power structures. However, there is a lack of research on what elements of GTAs promote what changes, for whom, and how GTAs intersect with the changing environmental and socio-economic contexts of smallholder's broader livelihoods. This study looks specifically at the Gender Action Learning System (GALS) approach, being used in the Circular Coffee Project in San Martín, and takes an intersectional, power focused- approach (power over, power to, power within and power with), to investigate in what ways such an approach contributes to gender transformative change, within coffee smallholder's livelihoods.

Qualitative field research was conducted in 5 smallholder coffee producing communities in San Martín, Peru through 5 evaluation workshops, 21 interviews with producers and 5 key informants, visual elicitation, and participant observation. These methods were undertaken to understand the impact of the GTA approach on gender transformative change within coffee producer livelihoods. Policy analysis of project documents was undertaken to understand the framings, purpose and assumption behind the specific approach chosen, to understand its influence on outcomes.

The results highlight that at the household level, GALS promotes recognition of women's work, more equal divisions of labour, decision-making, sharing of resources, co-planning for the future and self-confidence of women. However institutional barriers both at the cooperative and project level prevent women's "power to", which in turn put limitations on other power dimensions, and prevent progress towards gender transformative change, highlighting the importance of institutional barriers as key levers of change. Further, the structural environmental and economic insecurity of coffee producers' broader livelihoods, and their intersections with gendered power structures, presents a real risk to a reversal in gender transformative progress, revealing the need for more systemic approaches to GTC in the future.

The research concludes that to ensure effective gender transformative change that works for producers' broader livelihoods, GTA's should pay closer attention to intersectionality, institutional context, organisational bias, and the intersections of gender transformative change with broader livelihood resilience. Therefore, transformative approaches, particularly when implemented in a global supply chain context, should take a critical, intersectional and systems approach to their design, implementation and evaluation.

Key Concepts

Gender Inequality, Gender Transformative Approach (GTA), Gender Transformative Change (GTC), Intersectionality, Livelihoods, Smallholders, Coffee Production, Peru

Abbreviations

GAD- Gender and Development

GALS – Gender Action Learning System

GTA- Gender Transformative Approach

GTC- Gender Transformative Change

FAO- Food and Agriculture Organisation

NGO- Non-governmental Organisation

OFI- Olam Food Ingredients

Pro-WEAI – Project level Women's Empowerment in Agriculture index

SDG- Sustainable Development Goal

SQ- Sub-question

UN- United Nations

VC- Value Chain

WAD- Women and Development

WEAI- Women's Empowerment in Agriculture Index

WID- Women in Development

WHO- World Health Organisation

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1. Introduction

Although 28 years have passed since the signing of the Beijing Declaration and Platform for Action on gender equality (1995), no country has achieved gender equality. Once more, despite only 7 years remaining until the 2030 deadline for the Sustainable Development Goals, research by the United Nations (UN) has suggested that it could take 300 years to achieve gender equality (UN, 2022).

Whilst the global economy is increasingly structured around global value chains, research has highlighted how women are structurally excluded from access to, and benefitting from, participation in them, which is negative from a gender equality perspective and broader development standpoint (Bamber and Staritz, 2016). Policy makers are increasingly turning to global value chains as a means of driving development, highlighting the need to address gender inequalities within them.

However, despite over 70 years of development organizations working on gender equality in this field, there is still significant work to be done to address persistent inequality (Pyburn and Eerdewijk, 2021). Women constitute 43% of agricultural labour force in low-income countries, yet they have unequal access to land, capital, natural resources and assets (Singh et al, 2022). This is because gender inequalities are inscribed in laws, regulations and standards, and informal instiutions, such as norms and attitudes, that limit women's ability to participate in value chains.

In the agriculture sector, current mainstream development approaches still take the view that economic development and the inclusion of women in this process, automatically promotes gender equality. However, research highlights that this is not necessarily the case (Kabeer and Natali, 2013). In addition, the trend of agricultural interventions towards adaptation to climate change have been shown to be exclusionary of women (Resurrección et al, 2019).

Whilst on the one hand, women's economic opportunities, mobility and income are improving as a result of various gender-sensitive agricultural interventions, on the other hand, household power relations and gender-based socio-economic, cultural and institutional constraints for women's participation in society remain (Ashrafuzzaman et al, 2022). Relatedly, hot off the press is the 2023 Gender Social Norms Index (GSNI) report, which has revealed no improvement in biases against women in a decade and reveals that close to 9 out of 10 men and women hold biases against women, highlighting the need to address these attitudes (UN, 2023).

Limited progress on women's empowerment and gender equality in development, specifically in agriculture, and recognition of the importance of social norms, and power relations, has led to calls for Gender Transformative Approaches (GTAs) by feminist researchers, which aim to target these more strategic gender interests. However, there is an empirical gap when it comes to applied cases and there is an urgent need to understand the factors which enhance or limit the effectiveness of GTA's for different groups, and to understand the impact of context. Understanding the essential elements of gender transformative strategies, in what ways they are successful or unsuccessful, why, and for whom, will be essential for achieving gender equality in the future (Pyburn and Eerdewijk, 2021, Carnegie et al, 2020).

There is also limited research on the outcomes of gender transformative approaches within agriculture and climate adaptive contexts (Huyer & Gumucio, 2020). This gap is important to be filled to ensure resilience for all, as adaptation that ignores gendered power relations, will likely be maladaptive and worsen inequalities (Nightingale, 2009, Jerneck, 2018).

1.1 Study context: Smallholder Coffee production in Peru

An example of these broader issues is pertinent in the coffee producing regions of Peru, where despite playing an important role in preparing, producing and harvesting coffee beans, the tendency

to view women as domestic workers means that the contribution and realities of women farmers often goes overlooked and under paid (Gumucio et al, 2016). This results in exclusions from access to resources, trainings, economic opportunities, decision-making and leadership roles, preventing them from benefitting from their labour (ibid).

Gender research on coffee value chain development initiatives highlight that interventions to improve women's economic opportunities, do not always result in a change in power relations between men and women, and at community decision-making levels (Gumucio et al, 2016). Whilst there has been some successful economic empowerment of women through financial support such as bank loans, participation of women in cooperatives, access to technical assistance and capacity building, recent research highlights that despite more women entering formal roles in the coffee sector, this does not necessarily result in a shift in gendered power relations (Twin, 2013). In addition, coffee producers face livelihood threats from plagues and climate change and structural economic inequality of the global coffee value chain, which stand to worsen gender inequalities if not adequately addressed. It has been argued, therefore, that for more than just a superficial integration of women into the coffee supply chain, a transformative change in gender relations is needed (Bilfied et al, 2020).

Therefore, this research aims to investigate the effect of a specific GTA, namely Gender Action Learning System (GALS) for achieving gender transformative change, through focusing on the case study of the Solidaridad Circular Coffee Project in San Martin, Peru, which implements a GALS approach with smallholder coffee producers, alongside circular cultivation trainings. As such, this provides a useful case for understanding how GTAs are implemented within global agricultural value chains and their gender transformative effects within the broader context of producer's lives.

1.2 Research Questions

The central aim of the research is to understand the effects of the GALS approach in creating gender transformative change in smallholder coffee communities in San Martin, Peru.

Central Research Question: What is the impact of the Gender Action Learning System (GALS) approach on gender transformative change, in smallholder coffee producing communities in San Martin?

Sub questions:

1) What are the diverse gendered livelihoods of women in smallholder coffee producing communities in San Martin?
2) In what ways (or not) are gender transformative characteristics exhibited in the GALS approach, and how it is being implemented within the Circular Coffee Project?
3) In what ways does the GALS approach contribute to changes in gendered power relations (power over, power to, power within and power with), and for whom, within the context of coffee producer's broader livelihoods?

The first sub-question (SQ) aims to understand women's livelihoods in smallholder coffee producing communities of San Martin, such that an accurate picture of their lives and the barriers and opportunities faced by different groups are understood. Secondly, the research aims to understand how and why the GALS approach is applied in the context of the Circular Coffee project. Thirdly, it aims to understand how the GALS approach supports gender transformative change within the context of producer's livelihoods. This broader context is important to understand because experiences of gender inequality are imbued in changing socio-economic-environmental contexts, characterised by climate change, globalised supply chains and neoliberal approaches to development (Huyer and Partey, 2019). Furthermore, it is necessary to understand to what extent the GALS approach 'works for' producers, within the context of these broader livelihoods.

1.3 Scientific relevance

Many current gender policy models in agriculture are not successful and there are questions surrounding how they can be better designed and implemented to achieve gender equality. Whilst increasing research is pointing to the need for gender transformative approaches, it fails to present strong evidential cases and explanations of how this works in practice (Kantor et al, 2015).

This study contributes to the gap in the literature surrounding which elements of GTAs effect the ways different women engage with broader socio-political and economic processes, opportunities or risks (Pyburn and Eerdewijk, 2021). It unpacks variety *within* contexts and looks at what factors enhance or limit effectiveness of GTAs for different groups by considering intersectionality. This has important implications for ''leaving no one behind'', especially for women facing multiple forms of marginalisation within larger neoliberal trends shaping agriculture and natural resource management, and the uncertainties of climate change (McDougall et al, 2021).

Furthermore, this research will contribute to critical academic debates surrounding the effectiveness of market based and inclusion approaches to women's empowerment within agricultural supply chains, and explores the need for a more targeted, power-dynamic focus that recognises differentiated gendered realities. In addition, by situating the gender transformative analysis within the context of coffee producer's broader livelihoods, the research gains understanding of in what ways GTAs connect with more environmental and economic livelihood dynamics, and thus provide insight for what is needed for true transformative change.

1.4 Societal relevance

Gender inequality remains a pervasive challenge as progress on Sustainable Development Goal (SDG) 5 and other agriculture and climate related SDG targets are far from being achieved by 2030 (FAO, 2020).

Despite increasing research on the relevance of gender equalities to agricultural development and resilience outcomes, this has not translated to the development field concerning effective and practical implementation of methods (Kantor et al, 2015). This research aims to bridge this gap by taking a gender transformative lens to the impact of a coffee value chain development project. Understanding the impacts of the GALS approach on coffee producer livelihoods will develop learnings for scaling to other gender transformative initiatives in agriculture.

Solidaridad's positioning as a primarily economic development focused organisation, working with market-actors, and a history of more economic empowerment approaches, makes this gender transformative case a somewhat unusual one, allowing for evaluation of a GTA within a multi-actor project structure involving an NGO and market actors, the evaluation of which could provide important insights for future GTA approaches working in global value chains, with multiple actors. Additionally, the chosen case study is a first pilot of Gender Action Learning System (GALS), a gender transformative approach, used to promote gender equality, in the coffee value chain in Peru. The results of this study will be shared with Solidaridad, and in a multi-stakeholder platform seeking to promote replication in the Coffee Value Chain at a regional and national level. Therefore, this research will contribute to broader gender and social inclusion strategy in Solidaridad projects and broader GTA recommendations, helping to reconnect gender theory, research and development practice.

2. Literature Review

There is a long history of failed, top down and paternalistic women's empowerment initiatives and there are remaining questions concerning how to resolve this and ensure a transition to gender equality (Smyth, 2007). While there has been progress through targeted interventions in health, education, and social protection, gender inequalities remain particularly stark in agriculture

dependent and low-income contexts. The limited and uneven progress in gender equality calls for critical analysis of why gender approaches in development, and especially agriculture and natural resource management (NRM) in low- income countries have not delivered effective results (McDougall et al, 2021). This adds further importance to the question surrounding how women should be brought into the developmental mainstream, either integrated or radically transformed, a question that has long been debated by both researchers and development practitioners (Smyth, 2007).

2.1 Women in Development (WID), Women and Development (WAD) and Gender And Development (GAD)

Since the 1950s, there has been a diversity of gender interventions in agriculture, reflecting macro level economic and social policy approaches. Much agricultural research has used a Women In Development (WID) approach, which promotes women's inclusion within existing institutional and social contexts. The WID approach came into use in the 1970s with a publication by Ester Boserup titled 'Women's Role in Economic Development' and focused on addressing women's invisibility and exclusion from development opportunities (Singh et al, 2022). In a significant shift, WID for the first time conceptualized the productive roles of women in addition to reproductive roles. However, it conceptualized gender empowerment through economic participation, operating on the assumption that access to income is sufficient for gender relations to change. This was followed by the more critical Women And Development (WAD) perspective, which focused more closely on the relationship between women and development processes, and recognised that the work women do both inside and outside the home is important for functioning of societies. However, both were accepting of societal structures, rather than examining why women had fared less well from development in the past (Rathgeber, 1990).

Criticism of the WID and WAD approach led to the emergence of the Gender and Development (GAD) approach in the 1980s/90s, which aimed to mainstream gender into the development process with the objective of promoting women's empowerment and reducing subordination (Singh et al, 2022). GAD emerged from socialist feminist thought, which identified the social construction of production and reproduction in the modernist era as the basis of women's oppression, and further recognized that patriarchy operates across class and race to oppress women (Rathgeber, 1990). Indeed, GAD considered the power dynamics and relationships between women and men, understanding gender as dependent on gender relations, power and agency. Furthermore, GAD sought to reposition women as agents of change, rather than as passive recipients of development (Rathgeber et al, 1990).

In response to the GAD approach, the 1995 Beijing Women's Conference developed a vision of global social transformation. However, catalyzed by economic visions, empowerment-focused interventions have often overlooked the more difficult aspects of transformation such as social norms and power relations. Therefore, despite progress in theory, the GAD agenda is far from being fulfilled.

More recently, there has been criticism of western feminist scholarship and its discourse of the 'Third World Women' as a new kind of colonisation (Mohanty, 2015). Mohanty (2015) argues that defining the Third World Woman as a singular, monolithic subject defines women as outside of social relations instead of looking at the way in which women are constituted through social power structures. For example, only from the West is it possible to define the Third World as 'underdeveloped', highlighting that one enables and sustains the others. It has therefore been argued that cross-cultural feminist work should be attentive to the local context, subjectivity, as well as global macropolitics of power. In recent years therefore, there are increasing calls for hearing from women themselves, as this provides the most inclusive view of systemic power.

2.3 Women's Empowerment

The concept of women's empowerment emerged from the reflections of feminist researchers, activists and political leaders from the Global South, known as the DAWN (Development Alternatives with Women for a New Era) feminists in 1984 (Duncanson, 2019). Empowerment is about changing power relations and is defined as 'the process by which those who have been denied the ability to make strategic life choices acquire such an ability' (Kabeer, 1999, p435). However, since its conception, the ways in which it has been conceptualised and applied has varied. Indeed, as Batliwala (2007, p557) argues, "out of all the buzzwords that have entered the development lexicon in the past 30 years, empowerment is probably the most widely used and abused''. Once used to describe grassroots struggles to transform unjust power relations, Batliwala (2007) argues that women's empowerment has been adopted and mainstreamed by corporate powers, and substituted by micro-finance and quotas, meaning that it lacks the transformative edge it once had.

Kabeer (2005, p22) critiques mainstream development approaches that promote an instrumental view of empowerment, focusing on individual women as 'special agents' of development, used as economic instruments to achieve other development efficiencies. In particular, many gender approaches in development projects (particularly those in value chains) tend to focus on women's economic empowerment for pushing other development goals, i.e. nutrition (Cornwall, 2018, Niyonkuru and Barrett, 2021). This reflects dominant neoliberal economic development models, which hold the assumption that inclusion in economic markets will undo structural and historical inequalities. However, recent research highlights that this is not always effective (Duncanson, 2019). Additionally, development programmes prioritise technical exercises such as job trainings, improving access to health and other elements which can be easily measured and reported, and can tend to neglect changing power relations and social norms which are more challenging to measure (Jaquette, 2017).

Whilst women's empowerment initiatives are beneficial for women's practical gender needs, such as health, employment and basic service provision, they more often than not fail to cater for women's strategic gender needs, i.e. those that relate to power and social norms that tackle the root causes of persistent gender inequality (MacArthur et al, 2021). There has therefore been a dilution of more radical empowerment goals (that aim to rebalance the power between men and women) into technical goals (Kabeer, 2005). This has resulted in emerging recognition that bridging practical gender needs, with strategic, will be critical to achieving transformational changes in GE (MacArthur et al, 2021).

2.3 Gender and climate change

Since awareness of climate change and its effects has grown, there is growing evidence that climate change reflects and exacerbates existing inequalities, namely, gender (Pearse, 2017). Rural women in particular are at a higher risk of being negatively affected by climate shocks. For example, male outmigration, declining food and water access and increased disaster exposure can undermine women's ability to achieve enhanced human capital, economic independence and maintain health and nutrition (Eastin, 2018). This has impacts on the household level such as reductions in intra-household decision-making power, as women are less able to generate independent revenue, and at the societal level, as women are less able to participate in formal labor markets or join civil society organizations, increasing gendered differences in socio-economic status (Eastin, 2018). There is therefore evidence to suggest that climate change places constraints on the advancement of norms that promote co-equal status, and actually reinforce inequalities.

In congruence with gendered vulnerability, the literature has established that gender relations are an integral feature of adaptation to climate change, particularly in agriculture. Women are less able to implement climate adaptive practices due to lack of land rights, ownership rights for the means of production and restricted access to technology and information (Pearse, 2017, Assan et al, 2018). However, climate adaptation programs in agriculture are often 'gender blind' because gender is not

prioritised as an implementation goal (Roy et al, 2022). However, ignoring the challenge of gender equality is likely to undermine steps towards climate adaptation. Research indicates that whilst climate policy has limited and 'token' references to gender, it has some way to go before establishing real action (Acosta et al, 2019; Ampaire et al, 2020). This is in part due to the epistemological founding of climate-smart agricultural initiatives in technical science, which often fails to consider power relations, and portrays women as passive and homogenous victims (Lawson et al, 2020).

If we ignore the political and social foundations that contribute to the climate crisis and vulnerability to it, potential solutions will enhance existing injustices, and societies may miss the chance to address critical challenges of climate change. As Nightingale argues (2009, 85) adaptation and power are inextricably linked; "Adaptation is about power and knowledge (…) it is contested, negotiated and power-laden process.'' Therefore, not considering power relations is likely to result in ineffective and unjust adaptation.

As Resurreccion et al (2019) suggests, there is a need to learn from the few current gender-transformative programs being implemented within climate adaptive spaces, by applying and contextualizing the lessons learnt.

2.4 Intersectionality

As a result of progress within feminist theory gaining an understanding of gender as dependent on relations, power and agency, the concept of Intersectionality was coined by Crenshaw (2017), to illuminate the multiple social identities and forces through which power and disadvantage are expressed.

Crenshaw (2017) highlights that gender is mediated by other aspects such as income, age, ethnicity, religion, culture, physical ability, class and sexuality. Within the agricultural space, intersectionality has been identified as a concept that is useful for understanding the complexity of experience, which form the everyday lives of men and women farmers (Thompson-Hall et al., 2016). However, despite increasing interest in intersectionality in agricultural research for development, many agricultural interventions homogenise ''women and youth'', and do not recognise more complex inequities (Tavenner and Crane, 2019). This is a pertinent problem given additional climate vulnerabilities that can be compounded by and vary according to different intersectional identities (Huyer et al., 2020). However, where intersectionality is becoming mainstream and used within development organisations, it is becoming 'flattened' and depoliticized, removed from its attention to power (Bowleg, 2021).

There is a notable lack of literature on diverse women in the coffee sector, and in much literature, women are homogenised as one group. Therefore, this research will take an intersectional lens, looking at the different ways in which gendered power relations and social norms intersect with other identities in the context of smallholder coffee producers lives in San Martin, Peru.

2.5 Gender Transformative Approaches (GTAs)

Within the development field, how far gender has been integrated into a development initiative can be measured or conceptualized on a continuum from 'gender harmful' to 'gender transformative', developed by CARE (see figure 1) (CARE, 2017). 'Gender harmful' approaches are those that fail to consider gender, or have negative outcomes for equality, 'gender sensitive', and 'responsive' approaches recognize the differences in men and women's responsibilities and assets but implement activities that do not seek to challenge gender norms and relations, and 'gender transformative' are those that address underlying structural inequalities and social norms.

Figure 1. Gender continuum (CARE, 2017)

Whilst the semantics of these classifications, who decides them and how they are realised are important to evaluate, the literature maintains that gender transformative change refers to 'transforming' systems that perpetuate inequality and addressing structural inequalities in relation to gender and other intersectional issues (Roy et al, 2022). A Gender Transformative Approach (GTA) is one that engages with underlying power dynamics in relation to gender and transforms systems that perpetuate inequality. In order to be effective, GTA's work within the existing power structures, but across three spheres, namely individual capacities, social relations and social structures, and aim to shift mental models, values and beliefs (McDougall et al, 2021).

2.5.1 The emergence of GTAs

Despite gender mainstreaming, and progress in theory in terms of the GAD approach, the relational nature of inequality, and intersectionality, gender has been depoliticized within development practice, and missed its aim in achieving gender equality. Increasing evidence in both feminist scholarship and development reporting suggest that merely including gender, as in gender sensitive and responsive approaches do not create lasting change and point to gender transformative approaches as the potential key to achieving gender equality (Kantor et al, 2015). This is said to be because programs focused on empowering women (without considering power structures) often "increase women's ability to achieve specific changes in their behavior or access…[but] do not necessarily change the social order that gives rise to women's disadvantage" (Greene and Levack, 2010,5). In this sense, whilst they may improve women's life in one area, they retain the power relations that are the root cause of gender inequality.

Feminist scholars in the international development sphere recognised the need for change and sought transformational change in social systems, particularly in attitudes, behaviours and social norms that contribute to the maintenance of unequal power relations. According to Harper et al. (2014, p2), social norms are "the informal and formal laws, beliefs and practices that help to determine collective understanding of what are acceptable attitudes and behaviors … [and] can either drive processes of social change or act as brakes and barriers to such processes." (cited in Hillenbrand et al, 2015). Gender socio-cultural norms are therefore maintained and reinforced by deep-rooted beliefs, influencing everyday interactions. It follows then, that they are vital "leverage points for transformation'' towards gender equality, and transformative change (McDougall, 2017, p3).

In addition, the gender transformative agenda attempts to subvert the traditional developmental program theory of change; that gender equality is a tool to strengthen development outcomes, to one that in which improvements in development outcomes (which are inevitably gendered) can be tools to reshape gender inequalities, leading to further strengthened development outcomes. In this sense, transformative approaches thus have at their core the understanding that human flourishing is the goal of development, and that such wellbeing requires a transformational agenda of gender equality (MacArthur et al, 2021).

However, exactly *how* to achieve gender transformative change and the effects of implementation in different contexts is a topic that still needs much research and policy work.

2.5.2 Characteristics of GTAs

GTAS are multi-level and work in and across three spheres, the individual, social relations and social structures (McDougall et al, 2021). At the individual level, approaches aim to use reflexive processes to develop capacities and agency to critically examine and shift constraining gender norms. At the social relations level, GTAs understand that transformative learning is highly social, relational and interactive, and thus engage both women and men. At the social structures level, GTAs target structural gender barriers across multiple scales and actors (McDougall et al, 2021). Whilst GTAs aim to influence these three spheres, GTAs may be targeted at different levels, micro (intra-household), meso (community and local markets) and macro (national policy) levels (Singh et al, 2022).

Despite the lack of GTAs in the literature, Macarthur et al (2022) highlights the five common principles of GTA approaches (see figure 2).
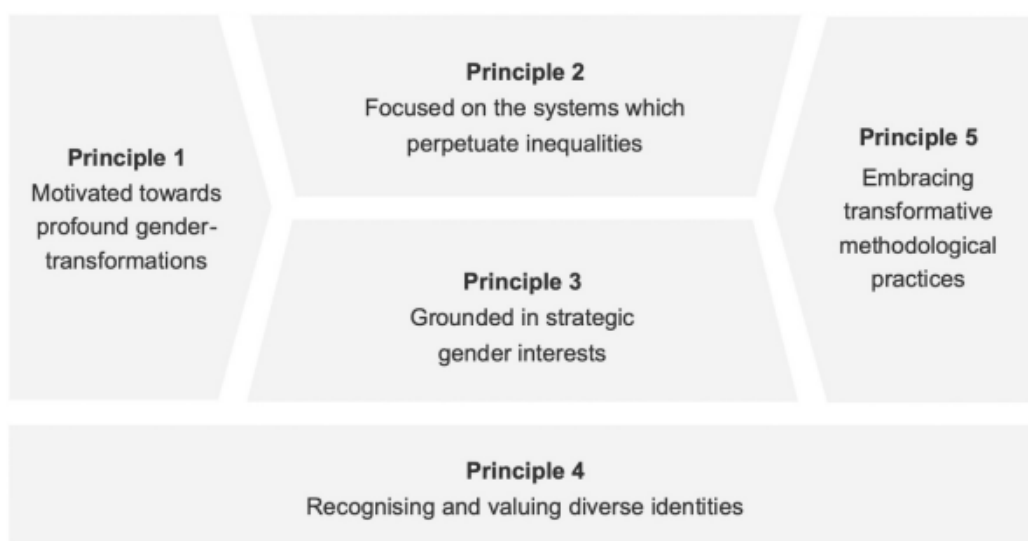
Fig. 5. Five uniting principles of gender-transformative approaches.

Figure 2. Showing the 5 common principles of GTAs (MacArthur et al, 2022)

The first, 'motivated towards profound gender-transformations' aims to interrogate the motivation of the program to ensure that it goes beyond instrumental development outcomes or efficiency visions of progress, towards lasting change, and aims to see revolutionary changes in the 'deeply engrained nature of gender inequality' (Mullinax, 2018, p4 cited in MacArthur et al, 2022).

Systemic structural factors reinforce gender inequalities. By focusing on the systems which perpetuate gender inequalities, gender-transformative approaches must take a systemic approach. This involves looking at the interacting parts of a system, feedback processes and overall systems behavior (Meadows, 2008). MacArthur et al (2022) posits that transformative approaches aim to tackle the main leverage points that will challenge the paradigm and practice of a system (its structure, rules and parameters), and thus transform the system (Meadows, 2008). Furthermore, because systems are comprised of many levels and actors, change must be reflected across the system at different levels.

Principle 3, grounded in strategic gender interests, suggests that transformative approaches aim to address the causes (not just the consequences) of existing inequalities that perpetuate gender discrimination and are lodged firmly in behaviours, attitudes and cultural norms.

Recognising diverse identities and that gender interacts with other social inequalities is addressed through incorporating an intersectional lens into design, research methods and sharing learning, involving capturing diverse actors' aspirations and experiences of change.

Lastly, utilizing transformative methodological practices, recognizes that many gender transformative approaches aim to use participatory, action-based and change-focused methodological approaches both to interventions, and their evaluation, to enable participants to be agents in the social change process. Whilst 'transformation' is a term most commonly used in interventions, it has been acknowledged that research and evaluation has the potential to transform societies, through its process and results. Wieringa (1994) argues that the processes of planning, empowerment and transformation are closely linked within feminist-informed analysis, and suggests that implementation, evaluation and research should be brought closer together, advocating for a transformative paradigm of research and evaluation.

However, despite these ambitious and well-intentioned goals, achieving and measuring gender transformative change poses a number of challenges, and is an area that is being regularly revised in the development sector.

2.5.3 Current approaches

Due to the novelty of GTA's, there are relatively few studies detailing the results of interventions, and many of these are in the health or gender-based violence (GBV) sector and have been implemented in Africa and Asia. In the early 2000s the World Health Organisation (WHO), International Centre for Research on Women (ICRW) and Promundo, built on transformative approaches focusing on HIV/AIDS, gender-based violence and reproductive health (Dworkin and Barker, 2019). In contrast, interventions in agriculture and natural resource management have slowed on the uptake of the transformative paradigm.

Whilst some agricultural interventions have started to use GTAs, for example for women's economic empowerment, climate change resilience, nutrition, livelihood improvements, savings and microfinance, value chains and engaging youth (FAO, IFAD and WFP, 2020), no systematic review exists on GTA in agriculture (Singh et al, 2022). However, emerging findings suggest that GTA approaches create significant changes in women's empowerment outcomes, particularly decision-making power, division of labour, control over assets and ability to apply knowledge (Cole et al, 2020).

A direct quantitative comparison of an accommodative with a transformational approach in relation to technical innovation in 3 villages in Barotse Floodplain Zambia, showed that the GTA created more significant change in gender attitudes as well as in measured indicators of women's empowerment compared with gender accommodative (Cole et al, 2018, 2020). In addition, a systematic review of 10 new gender transformative interventions found that 7 of the 10 interventions improved gender-equitable attitudes among men, and 8 led to a decrease in women's experiences of inter-partner violence (Casey et al, 2018, Dworkin et al, 2013).

There is, however, a lack of more qualitative research on specific GTA approaches, in what ways and at what level they change power relations and socio-cultural norms, and their broader development effects.

2.5.4 Measuring gender transformative change

Social norms research is not common, and as such there are few systematic and established methods to analyse social norm change. Within gender equality monitoring and evaluation there is a focus on disaggregation by sex, women's participation, and improvements in women's situations, with little attention to impacts on women and on men in terms of changes to unequal gender relations (Espinosa 2013). Current measurement systems commonly look at gender equity outcomes without grounding in interpreting the contexts within which change happens. In addition, few

metrics dig deeper to consider how new forms of power and relationships are emerging within societal structures and relations.

As gender transformative approaches are increasing in popularity, there are frameworks appearing for its measurement and monitoring. Many of these include frameworks that are used to assess women's empowerment. Key dimensions that are deemed vital when analyzing women's empowerment include, gendered division of labour, access to resources, control over resources, access to public spaces and services, claiming rights and meaningful participation in public decision-making and aspirations for oneself (CARE, 2012, cited in McDougall et al, 2021).

This has been adapted to agricultural contexts in the form of the Women's Empowerment in Agriculture Index (WEAI), a widely used tool. Within the WEAI, there are 5 domains of assessment, including, decisions about agricultural production, access to and decision-making power over production, control over use of income, leadership in the community and time use (Malapit et al, 2019). This has further been developed into a Project level WEAI (Pro-WEAI) which takes a mixed methods approach to examine women's empowerment within project specific contexts (Malapit et al, 2019). WEAI is an example of a multi-dimensional index that captures the empowerment profile of men and women in the sector, however by conceptualizing agency in individual terms, it misses the relational elements of agency, as power is not exercised in a social or political vacuum (Rao, 2017).

Existing theoretical frameworks on women's empowerment have led policy makers to focus on designing programmes to empower women, without taking into account other actors involved in gender relations or the relational nature of power (Singh et al, 2022). The steadfast focus on men and women's roles and access to resources, does not recognize power relations working at the various levels of society and how they integrate with different identity categories (Wong et al, 2019). Therefore, in order to determine the impact of gender transformative change, there needs to be a greater attention to structural changes, through looking at social norms, biases, and patterns of discrimination and how this changes based on with different intersectionality (McDougall et al, 2021).

Having said this, gender transformative change can be difficult to measure as the structural changes they aim to make take a long time, and are not linear, involving multiple actors meaning that monitoring must accommodate incremental changes (Batliwala, 2007). Indeed, the emergent ways in which gender transformative monitoring is being designed contradict traditional donor expectations, as they analyse power relations and social norms, whereas donors often request quantitative and rigid frames of assessment (McDougall et al, 2021).

Additionally, there is increasing attention in the literature towards the need for organizational gender analysis and program design as program staff and partners must be sensitive to norms relations and power, in terms of gender as well as other axes of power and social relations. Organizations are increasingly recognizing the need for internal reflection and reform to ensure gender equality among staff and partners, as 'a gender-neutral development worker is a myth' (Hillenbrand et al, 2015). Along the same line of reasoning, Freire argues, there are no "neutral methodologies" (Freire, 1970: 5). There is thus a need to evaluate how organizational bias might influence the implementation of the gender transformative approach and its outcomes.

2.5.5 Criticisms of GTAs and remaining gaps

Despite early signs of success, GTAs have faced some criticism. The majority of current GTAs, focus on gender transformations within relationships. McDougall et al (2021) argue however, that whilst the importance of working on interpersonal connections within the household or relational level is clear if gender norms are to be changed, these approaches are less likely to explore systemic and structural challenges that perpetuate inequalities. Additionally, McDougall et al (2021,p368) argue that ''the transformative potential of social change is diluted by placing emphasis on women rather

than on society as a whole". This is because when women and girls are seen as the solution, the potential transformational effect of GTA's is limited as they are less likely to explore systemic and structural challenges.

The majority of GTA measures until now have been focused on the individual level, which does not capture how relations are changing at the household and community level. Additionally, research has focused on formal structures such as laws and policies, and often misses non-formal structures, such as norms, values and institutions. Therefore, McDougall et al (2021) posit that due to the multi-dimensional nature of GTC, the assessment of Gender Transformative Change must be multidisciplinary and multi-level.

Furthermore, there is a tendency to focus solutions within one sector, or discipline. However, gender transformative change is multi-disciplinary in nature therefore focusing only on change within the specific sector in which a program is based, may represent a missed opportunity for understanding any multiplier effects or unforeseen impacts (Espinosa, 2013).

There are substantive gaps in how to move forward with gender transformative approaches, highlighting a need to analyse the effects of existing programmes (McDougall, 2021).

2.5.6 Gender transformative climate change adaptation

The term gender-transformative climate adaptation has recently been coined to describe the potential for climate adaptation to champion gender transformative objectives (Resurrección et al, 2019). When considering climate change, gender transformative adaptation requires addressing the social drivers of vulnerability, particularly the power dynamics that reinforce gendered inequalities in order to avoid exacerbating them (Amorim-Maia et al, 2022).

In rural agricultural contexts, women are most adversely affected by climate changes that put their food and livelihood security at risk, which they are typically more vulnerable due to barriers accessing land, technologies and information. Resurrección et al (2019: 15) therefore define gender-transformative adaptation as being "unlocked" when interventions "challenge power dynamics and discriminatory norms and practices that threaten livelihood and food security".

Evidence from adaptation strategies, highlights that new opportunities such as technical trainings can be (re) masculinized, excluding women, and reinforcing old and new gendered exclusions, leading to maladaptation (Resurrección et al, 2019). It is argued that women's involvement in adaptation progammes should actively empower women with resources and voice rights, rather than simply 'mobilise' them, which would contribute to their time burden. Furthermore, Resurrección et al (2019) found that the broader structural realities, such as the political economy of supply chains, and their exploitative labor practices, can obstruct gender transformative climate adaptation. However, in adaptation cases where women gain greater roles in agrobiodiversity, and food and nutrition security (through home gardening), their decision-making power in the household improves, alluding to the potential co-benefits of gender transformative adaptation.

Thus, this research aims to build on gender transformative theory and create learnings for practical implementation by focusing on a specific approach, namely Gender Action Learning Systems (GALS), as it is implemented within a broader climate adaptive context.

2.5.7 Gender Action Learning System (GALS)

One of the methods developed by the NGO world to bring about gender transformative change is GALS. The GALS approach is an adaptation of Participatory Action Learning System (PALS), a participatory methodology applied first in Uganda in 2002 (Mayoux, 2012). It was later adapted specifically for mainstreaming gender justice in value chain development from 2009 onwards by Oxfam Novib and IFAD (Mayoux, 2012). Therefore, it is important to recognize that whilst GALS is a

participatory initiative, it originates from the NGO world and traditional 'patriarchal' ideas of bringing development to the global South as outlined by Mohanty (2015).

The approach involves men and women enables evaluation of the intersections of gender roles with other aspects of family business, leading to changes to culturally embedded gender issues, dimensions, which are otherwise considered too conflictual to address (Mayoux, 2012). GALS is designed as a self-monitoring tool, aiming to encourage an ongoing learning and self-reflection process. An applied GALS methodology has been shown to give households and communities safe spaces to identify and challenge social constraints, vulnerabilities and also model alternative visions promoting behavioral change over the long-term (Farnworth et al, 2018).

However, there is little exploration of the processes that cause this change, and additionally little to no research on the gender transformative effects of GALS within coffee producing contexts. Therefore, this research will analyse the effects of the GALS approach in the climate adaptive Peru coffee supply chain.

2.6 Livelihoods

Gender is relational, and thus it is important to understand the way in which gendered social norms and power structures are imbued in smallholder farmers livelihoods (Rao, 2017). Understanding livelihoods involves understanding the broader context of why people make the choices they do and what constraints people might face in trying to employ solutions (Levine, 2014). Central to this is understanding the way in which social institutions and ideologies define access to resources and inform the strategy options available to different members of a community (Oberhauser, Mandel and Hapke, 2004). Thus, understanding structural gender inequalities requires understanding them within the broader context of smallholder livelihoods, involving macroeconomic forces, neoliberal development, and environmental shocks. By first understanding women's diverse livelihoods (SQ1), the research aims to understand the impact of a gender transformative approach on these livelihoods.

2.7 Theoretical Framework of Gender Transformative Change

Due to the previously discussed limitations of traditional gender equality assessment methodologies in agriculture, which tend to focus only on women, and lack an assessment of power dynamics, this research will utilize Rowland's (1997) conceptualization of power, arguing that that power operates at four interconnected levels; ''power over'', ''power to'', ''power within'' and ''power with'' (see Table 1).

The focus on power in this conceptualization will help uncover changing structural relations and norms, which gender transformative approaches attempt to change (Hillenbrand et al, 2015.) In addition, Rowland's conceptualization of power, has been posited as vital to understanding livelihoods, particularly access to livelihood opportunities, which are governed by social relations, institutions and organisations, and the relationship between access and decision making, which involves both strategic and unintentional behavior, and structural factors. Therefore, this framework aims to understand the level of gender transformative change within the livelihoods of smallholder coffee producers in San Martin, Peru.

Table 1. Theoretical Framework, detailing the definitions of the four types of power (Adapted from Rowlands (1997) and McDougall et al (2021))

Power dimension	Definition
Power over	Defined as a control over resources as the preconditions for empowerment (i.e. income, assets, land and time) and people or other's lives.
Power to	The agency to act to realise one's aspirations. This involves individual capacities and actions.

Power within	Refers to a person or group's sense of worth, self-awareness, self-knowledge and aspirations, which are also related to agency and shaped by social norms and gendered institutions. Internal recognition of rights and critical consciousness.
Power with	Involves collaborative and collective power with others through mutual support, collaboration, recognition, and respect for differences. This can take place at multiple levels, from household and intimate relationships to cooperatives and collectives.

3. Contextual Framework

3.1 The Coffee Value Chain

Coffee is a major global commodity, and one that is supported by millions of smallholder farmers in the tropics. The coffee value chain is highly complex, involving a large number of actors from farmers to final consumers. Using input from local suppliers, smallholder farmers cultivate coffee beans via labour-intensive methods, and are responsible for production of 70% of beans, and their quality, globally (Utrilla-Catalan et al, 2022). The coffee industry worldwide made USD 409.90 billion in 2021, however, for many in the cultivation of coffee, it is difficult to make a living (Statista, 2022, Utrilla- Catalan et al, 2022).

The coffee supply chain is characterized by large economic inequalities. In Peru, more than 70% of coffee is exported for consumption in the global North (MINIAGRI, 2013), meaning that it is a highly vertical value chain. Local farmers sell beans to first and second level traders, who bargain with coffee traders. Coffee traders and multinational firms operate in international markets, where coffee is exported as 'green' (not roasted) and roasting and processing usually occurs in consuming countries (Utrilla-Catalan et al, 2022). The income of coffee farmers is therefore largely dependent on international markets and multinational buyers.

Interestingly, however, this was not always the case. In 1962 the first international coffee agreement (ICA) signed by most producing and consuming countries, had a regulatory system which set the target price, and export quotas for producing countries (Utrilla-Catalan et al, 2022). This stabilized prices and ensured that the coffee chain was not driven by producing *or* consuming countries. The coffee value chain changed drastically after collapse of the ICA and deregulation of the coffee trade at the end of 20th century, which turned the coffee market from producer driven to a buyer-driven commodity supply chain (Utrilla-Catalan, 2022). As a result, smallholder coffee producers experience economic challenges, as coffee prices are highly linked to fluctuating international markets, and furthermore, access to markets and capital is limited. Despite increase in worldwide coffee consumption and its price, there has been an absence of development for producers, due to decreasing or unstable prices for farmers, otherwise known as the 'coffee paradox' (Daviron and Ponte, 2005). Whilst there is growing concern for more integrated chains and social and environmental certifications, it is clear that more needs to be done to generate smallholder development.

3.2 The Peruvian Coffee context

In 2021, Peru produced 365,000 tons of coffee, making Peru the 7th largest coffee producer in the world. It exported 194,000 tons of green coffee at a value of USD 766 million (INEI, 2022 a,b), and specializes in fair trade and organic coffee. Peru has tripled its coffee output since the early 2000s and is now a major supplier of commercial-grade Arabica coffee (Cordes and Sagan, 2021). A third of all agricultural employment in Peru is linked to coffee, making it an important economic industry for Peru (World Coffee Research, 2022). The national priorities for coffee include increasing productivity

using sustainable approaches, improving consistency of quality and building national awareness and demand for Peruvian coffee (ibid).

Production regions stretch along the Eastern slopes of the Andes, otherwise known as the high jungle. Five regions (San Martín, Junín, Cajamarca, Amazonas and Cusco) concentrate more than 85% of all coffee production and is concentrated in the regions of San Martin, Cajamarca and Amazonas, with 27.3%, 19.3% and 11.5% of production in 2020, respectively (MIDAGRI, 2021). Majority of Peru's coffee production is small-scale, with 95% of producers owning 5 hectares or less. Yields are relatively low, at 15 quintals/ha (MINAGRI, 2018). This is mainly due to poor technical management of the farms and lack of investment to improve yields. Only 20% of coffee producers are associated in cooperatives, which provide technical assistance to farmers and prioritise organic production (Andersen et al, 2022). The rest sell directly to export companies, which pay according to global coffee prices, often irrespective of quality.

3.2.2 Key Challenges
Coffee and Climate Change
Peru is among the 20 most vulnerable countries to climate change, and this is problematic considering that Latin America grows 82% of the World's Arabica coffee, a species that is climatically vulnerable-preferring high elevations with cool temperatures and more than 1200 mm of annual rainfall (United States Department of Agriculture, 2021). By 2050 Climate change is expected to result in substantial changes in the spatial distribution of suitable areas for Arabica coffee production in Peru (Altea, 2019). This together with high poverty rates and economic inequality increases coffee producing farmer's susceptibility to climate change (Notre Dame Global Adaptation Initiative, 2022).

Coffee intensification
There is a growing global trend towards intensification of cultivation of coffee trees in the tropics, which involves eliminating shade trees, increasing agro-chemical inputs and selecting genotypes in an attempt to increase short-term income (Parodi et al, 2022). However, this occurs at the expense of protection of ecosystem services necessary for production.

Furthermore, increased production is realised through deforestation (Jezeer and Verweij, 2015). Nearly 80% of forest loss events between 2001 and 2015 in Peru were small-scale events driven by smallholder farmers (Parodi et al, 2022). In order to prevent deforestation caused by smallholder expansion, Peru is promoting the adoption of agroforestry systems (Landaverde et al, 2022). These techniques are vital for long-term productivity of agroforestry systems as poor soil management, leads to soil mining and degradation, common amongst smallholders (Pokorny et al, 2021 cited in Parodi et al, 2022). However, successful implementation can be difficult to achieve, leading to calls for future research and action to focus on the inclusiveness of strategies, and a systems approach which integrates actors with locally vested interests in adaptation (Landaverde et al, 2022, Morales et al, 2022).

Coffee rust plague
Coffee rust is a leaf disease caused by the fungus *Hemileia Vastatrix* which has affected many coffee producing countries in central and south America since 2008, and particularly the Arabica species, which is more vulnerable to disease (Avelino et al, 2015). It causes the death of branches and a decline in crop production. The cause of such epidemics is linked to the state of the economy, crop management decisions, and prevailing weather, which considerably reduces crop productivity, and thus income and food security of coffee farmers (Avelino et al, 2015). The intense epidemics correlated with low coffee profitability periods, due to price declines, leading to suboptimal coffee management, which results in increased vulnerability of plants to disease. Meteorologically, the

epidemics were caused by a reduction in the diurnal thermal amplitude with higher minimum/lower maximum temperatures, decreasing the latency period of disease.

The plague is not a new problem and can be partially addressed through good agricultural practices and the planting of rust-resistant varieties (de Resende et al., 2021). However, increasing uncertainty of production as a result of the plague leads farmers to attempt to balance their farm-based livelihoods with off-farm activities, such as working for other farmers or migrating to urban areas, thus unleashing a change of agro-ecological and social changes within communities.

At the peak of the last crisis in 2013, demonstrations were held in parts of central Peru due to producers struggling with low prices, asking the government for loans so that they could replant and pay their debts. The government committed 250 million soles (88.5 million dollars), to help producers cope (Avelino et al, 2015).

Price volatility

Coffee price volatility is a major challenge for Peruvian coffee farmers as coffee prices more than tripled from 2004 to 2011, yet dropped by 50% in 2013 (Jezeer and Verweij, 2015).

There is no recent study on incomes of coffee producers in Peru, as they are predominantly small independent producers who do not receive wages for their work, but earn a net income from their productive activities, which includes other crops as well as off-farm labour. However, a study on living wage assumes that a typical producer earns less than 1000 dollars in net income from coffee, or nearly 1/5 the living income benchmark (Cordes et al, 2021).

3.3 Gendered rural inequalities

Whilst significant strides have been made in terms of closing gender gaps in Peru, inequalities remain more marked in rural contexts. For example, rural women's access to education and health services remains a challenge, whilst teenage pregnancy rates remain high among rural women. In 2015, 22.5% of young women (15-19) in rural areas were mothers or pregnant, whilst this was only 10.8% in urban areas (World Bank, 2018). Women are overrepresented among informal workers and bear the brunt of unpaid work. Whilst there is parity of educational attendance at primary, women from the lowest quintile of earners are much less likely to attend secondary school (ibid). Literacy rate is higher among men that women, especially in rural areas, where illiteracy levels reach 33.6 percent compared to men's 9.2 (World Bank, 2018). Women also continue to experience domestic violence, with around 70% of women with partners experiencing some form of domestic violence. Traditional gender norms are perpetuating the existing gender gaps in the country, particularly in rural areas.

3.3.1 Gender and smallholder coffee production

Within coffee producing communities, women's labour has long been invisible with it being a predominantly male industry. However, the recent 'feminisation of agriculture' within cash crop industries has seen an increase in women's participation in the formal agriculture sector as producers and cooperative members (Food and Agriculture Organisation, 2010 cited in Bilfield et al, 2020). Both men and women therefore contribute to coffee production in Peru, however, women experience increased work and time burdens, as their roles are perceived to be in the household or familial care (Patil and Babus, 2018). Women are also paid less for their labour than male counterparts meaning that it is difficult for women to achieve financial and social equity with men (Patil and Babus, 2018).

Peru's model for rural development and women's empowerment focuses on integrating rural poor into the market economy. However, receiving a loan requires title to land, which presents barriers to women without tenure (Twin, 2013).

It has been shown that both men and women can benefit from participating in producer organisations/ cooperatives in Peru, due to access to capital equipment and marketing channels. This is particularly helpful for women to access technical assistance and capacity-building that can otherwise be beyond their reach due to socio-cultural norms and has been shown to make women 10% more likely to own land (Twin, 2013). There are also cases of individual organisations that have focused on developing women's empowerment in coffee. One example includes UNICAFEC's certified Women's Coffee supplied by women producers, the income from the premium of which goes to the women's empowerment program (Gumucio et al, 2016).

Once women's roles in agricultural labor are recognised, they can access training, credit services and technologies, and the potential for gender equality outcomes improves (Huyer and Partey, 2020). However, agricultural production is situated within broader societal structures of gender relations that affect labor, resources and other assets (Huyer and Partey, 2020), meaning that there are often broader structural barriers of discrimination which prevent women's access to trainings.

3.4 Case study: Circular Coffee Project, San Martin, Peru

The Circular Coffee Programme (Peru) launched in 2019, aims to reduce the use of resources whilst creating an economically viable solution from plot to cup (Solidaridad, 2019). Partners include Solidaridad, OFI Peru, Jacobs Douwe Egberts, Smallholder farmers, the Netherlands Enterprise Agency (RVO), Cuencas del Huallaga and National Forestry Division SERFOR (Ibid). The project has three impact pathways, Circular Cultivation, Circular Roasting and a Circular Coffee Value chain, however, this research focuses on Impact Pathway 1: Circular Cultivation, focusing at the coffee cultivation stage, and specifically on the GALS approach.

Coffee producers are trained on Circular Cultivation and agroforestry practices, and Gender Action Learning. At the smallholder level, it aims to encourage shade management, wastewater management, soil management and fertilisation (through creating a nutrient rich fertilizer from waste) (Solidaridad, 2019).

The gender equality strategy, GALS, aims to overcome barriers faced by women, by overcoming and challenging family mindsets around gender roles and norms.

The specific GALS approach utilized in the Circular Coffee Project consists of three workshop activities, namely the Vision Journey, the Equity Tree and the Social Empowerment Map (see Appendix G). The Vision Journey aims to increase the understanding of and respect of people's visions and provide a tool to create an action plan on strategies to achieve them. The Equity Tree aims to investigate different household structures and identify inequalities within the household. The Social Empowerment Map aims to understand economic and power relationships within communities and institutions and establishes strategies for peer sharing and an upscaling of messages and methodologies.

The project implements a 'train the trainer' approach whereby gender champions and model farmers are selected and disseminated the training first by Solidaridad staff and OFI technicians. The idea is then that they continue to facilitate the same training to the rest of the community. The project aims to train 65 gender community champions on the GALS methodology, and to reach 1600 families by the program-end in 2024 (Solidaridad, 2019).

Whilst the program aims to implement a gender transformative approach, it also has agricultural and economic goals. Therefore, it is important to situate the GALS methodology in the contextual framework of the entire project, as this can influence the aims and outcomes of such a GTA.

3.4 Regional context: San Martin, Peru

3.4.1 History

San Martin is located in the northeast of Peru, and most of its original land cover consisted of tropical forest. However, by the end of the 20th century, the region started to see a rapid increase in deforestation rates. This is because between 1950 and 1970 San Martin underwent a strong in-migration of peasant farmers from economically depressed rural areas of the highlands and northern coast of Peru (USAID, 2020). This population was encouraged by the highly fertile lands and the "Marginal de la Selva" highway (a road linking the highlands to the jungle), a vision of the Peruvian president at the time, Fernando Beluande Terry, to conquer the upper and lower rainforest east of the Andes. As a result, by 1990s migrants represented 30% of the total population in San Martin (USAID, 2020).

This migration established the economic and social base of the region, being small-scale agricultural production. However, in the 1970's and 1980's coca leaf cultivation became widespread as a result of the ''Moviemiento Revolucionario Tupac Amaru (MRTA)'', joined by the terrorist movement ''Sendero Luminso'' (SL), reaching 30,000 hectares, the highest production in the country. In the 1980s San Martin was dominated by terrorism, drug trafficking and instability (USAID, 2020).

However, in the 1990's the Peruvian military supported by the USA defeated the MRTA and made eradication of the coca leaf a top priority. The Peruvian government supported by USAID promoted a return to agricultural crops (coffee, cocoa, palm oil and palm heart), provided payments, invested in roads and schools, attracting many families to the region (Pokorny et al, 2022).

In the early 2000's the region saw an acceleration in economic growth, as there was improvement in value added productivity and competitiveness amongst associative organisations of smallholder farmers. These efforts were complemented by participation of large private enterprises and international markets, which presented favorable behavior for regional products. As a result of both regional and national economic growth, the Peruvian government invested in better infrastructure (roads, bridges, schools and health clinics), and poverty rate reduced dramatically in the early 2000s (USAID, 2020).

The agricultural sector is now the most important economy of the region, contributing to 30% of GDP and generating 46% of employment. In the case of the coffee chain, the main cooperatives are Oro Verde with 970 members and over 1900 cultivated ha, and Aproeco, founded in 2008, with 500 members. The regional coffee industry has grown and improved with producers moving to organic production and utilizing fair trade mechanisms, resulting in certification, improvement in labor standards and environmental protection practices.

3.4.2 Climate Change

Recent research on the impact of climate change on the San Martin region has concluded that high elevation zones suffer from increased exposure to frost and high intensity rainfall, leading to an increase in coffee leaf rust and increased infrastructure damage, all which can decrease the quality and quantity of coffee produced (Morales et al, 2022).

In an assessment of the supply chain, Morales et al (2022) conclude that the greatest vulnerability and adaptation burden will be borne by those actors most tied to the territory, individual smallholder farmers, and those territories most exposed to strong changes in climate, low to middle elevation areas. In the case of San Martin, the province of Moyobamba (the location of 3 out of 5 communities in this study), has the highest proportion of vulnerable farmers, and will require the greatest adaptation efforts. Other (higher elevation) areas may gain from climate change, as they become new opportunities for coffee farming (Morales et al, 2022).

More broadly the research of Morales et al (2022) points to the relative climate and market resilience of the coffee industry (coffee buyers) when compared to coffee producers and highlights the importance of corporations to support coffee farmers in the adaptation process.

Thus, looking at GTC within a broader project which encourages adaptation efforts and involving coffee market actors, is highly relevant to assess the interlinkages with their livelihoods, given the vulnerability of San Martín coffee growers to climate change.

4. Methodology

Multiple qualitative methods of inquiry were used to assess the gender transformative impact of the GALS approach within the Circular Coffee Project. Feminists have highlighted the ability of qualitiative methods to highlight issues of power, ideology and subjective meaning. It does not make causality claims, but is conducive to exploring perceptions of change, seeking interpretations of empowerment within contexts, describing individual experiences, exploring social-norm changes and understanding interconnections, thus is most relevant to a research aiming to understand gender transformative change (Wasserman and Clair, 2016).

The field research was conducted in San Martín, Peru from February to March 2023 and consisted of evaluation workshops, semi-structured interviews, visual elicitation and participant observation with 5 smallholder coffee producing communities, in the regions of San Martín and Amazonas, Peru, namely, La Merced, Palmeras de Oromina, Nuevo Jaen, Alto Peru and La Libertad de Huascayacou (see Figure 3). The research also conducted policy analysis on project documents.

The study was started after the project cycle start, meaning that a thorough assessment of the situation 'before' implementation of the GALS approach could not be analysed through primary research. However, through analysing gender transformative change through the perceptions of change felt by the producers, with reference to a gender assessment carried out before the project, the research abides by feminist epistemologies that prioritise hearing from and defining change by reference to the participants themselves.
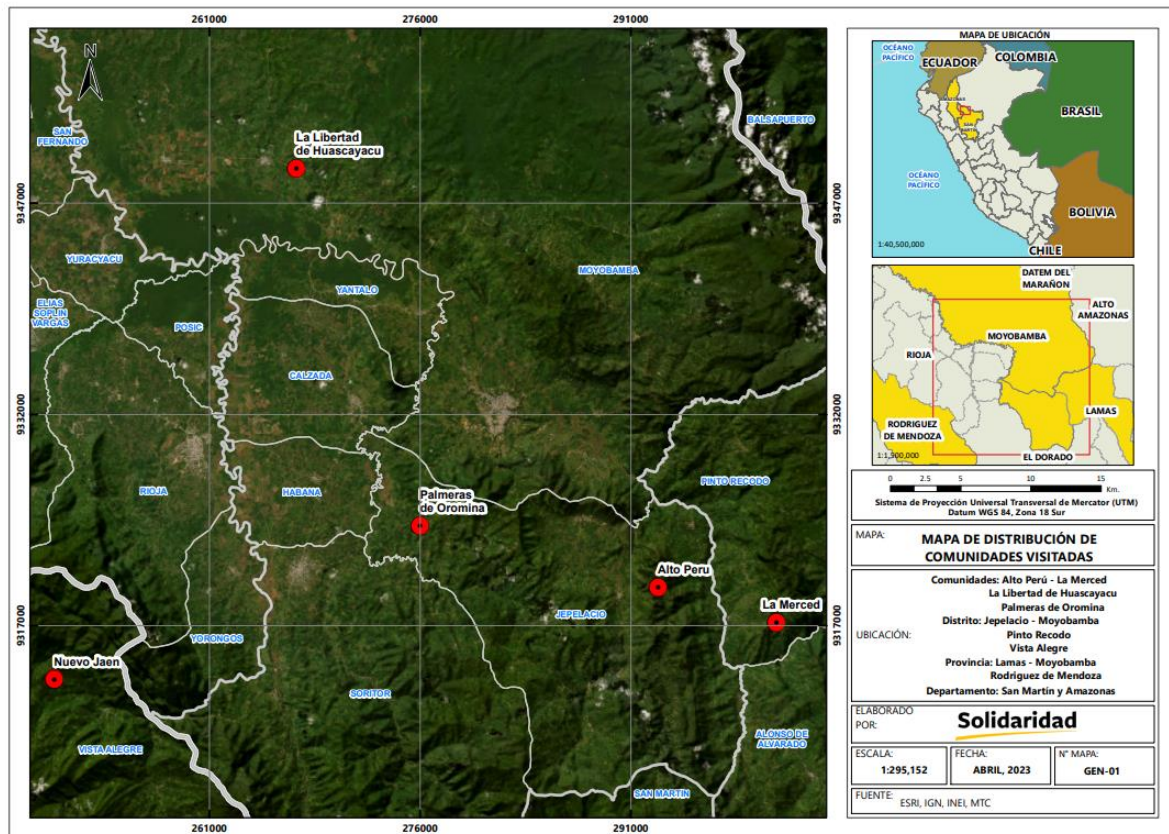
Figure 3. Map showing the geographical locations of the 5 communities involved in the study. Source: Solidaridad, created for this study (2023).

4.1 Elaboration of Research Questions and methods

In this study, the findings are analysed through the feminist framing of gender transformative change, which focuses on changing power dynamics and underlying socio-cultural norms.

SQ1, investigating the gendered lived realities of smallholder coffee producers in San Martin, looks at the 'power over' dimension (as shown in table 2), and aims to understand current gender inequalities within the broader context of coffee production, and coffee producer livelihoods in San Martin.

SQ 2, investigates the approach of GALS, by analysing policy documents and interviews with project staff to understand to what extent the project aim and design is gender transformative. The gender transformative nature of the project design and intentions of the project have been analysed using the framework of gender transformative characteristics developed by MacArthur et al (2022) (as elaborated in section 2.5.2 in the literature review) and reworked as interrogative questions, combined with the added factor of organisational bias (MacArthur et al, 2021).

SQ3, investigates the effect of GALS on gender transformative change, and is analysed through the following theoretical framework (see table 1), adapted from Rowland (1997), taking account for the specific context of the case study in question to define more specific indicators.
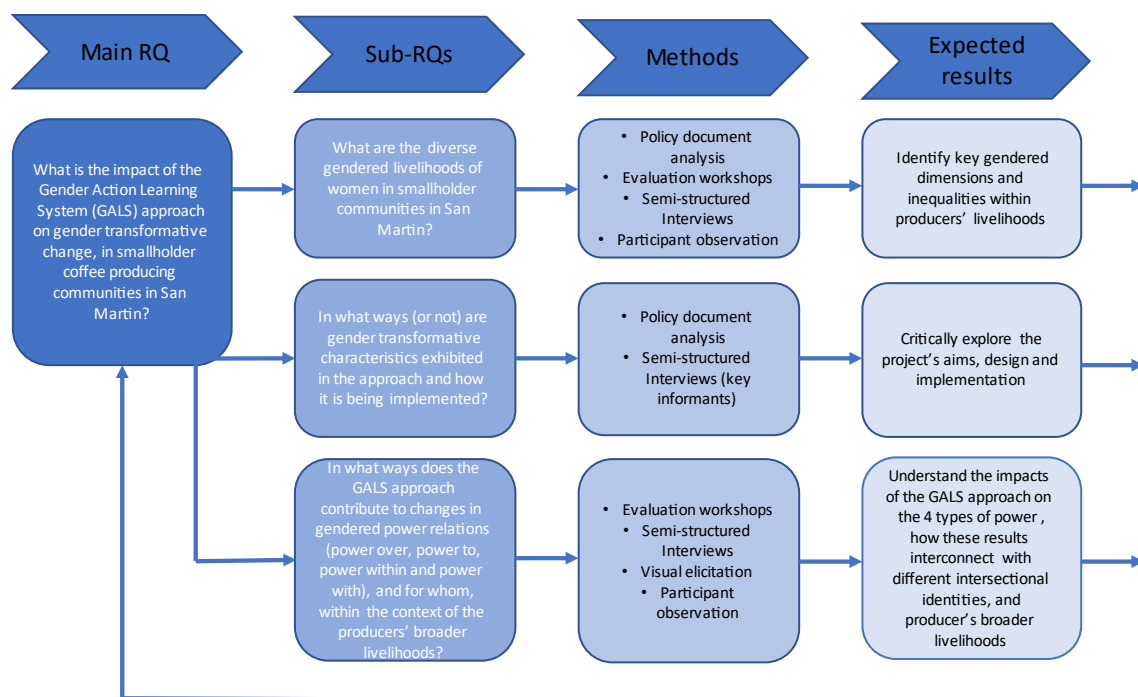
Figure 4. Flow diagram of Research Questions, Methods and Expected Results. Source: Author's own.

4.2 Operationalisation of Theoretical Framework

The below framework is used to understand how the GALS approach impacts the different dimensions of power, to what extent, and how they may interact. Gender transformative change requires strengthening agency (through assets, access, capacities, and critical reflection), network-building to strengthen and ensure equal relationships, and changing of structural norms and practices to overcome dominant power inequalities (Hillenbrand et al, 2015). This framework was chosen and developed as gender transformative change is quintessentially about transforming power relations and can be understood by analysing different forms of power. The following table has been adapted by taking indicators from theory and other frameworks that measure gender equality and women's empowerment in agriculture, namely the WEAI and Pro-WEAI, but adapts them to the local coffee producing context of San Martín, Peru.

Table 2. Operationalisation of Theoretical Framework (adapted from Rowland (1997)).

Power dimension	Definition	Indicators
Power over	Control over resources (as the preconditions of empowerment), people or other's lives.	Income generation and labor Social norms around work Time use Control over land/ finances Women's mobility Women's autonomy
Power to	Power to act to realise one's aspirations	Individual knowledge and skills (technical knowledge and abilities)

	(directly related to agency).	Access to resources and trainings
		Control over resources and decisions
Power within	Sense of worth, self-awareness, self-knowledge and aspirations.	Self-confidence (voice, negotiation)
		Awareness of rights
		Aspirations for the future
		Critical consciousness (awareness negative impact of inequality and gendered social norms)
Power with	Collaborative and collective power with others	Collective capacities
		Collective actions
		Group solidarity
		Women in community leadership positions
		Gendered membership of collectives/cooperatives
		Economic opportunities/ enhanced access to livelihood resources

4.3 Evaluation Workshops

Anticipating difficulties in gaining access to smallholder communities and interview volunteers, five evaluation workshops were organised and conducted in the five selected communities, with the support of the local Solidaridad office. This enabled rapport to be built with producers, and for voluntary selection for interviews.

These workshops consisted of 1) an analysis of time spent on different labour activities of men and women, and 2) a starring of the different productive and reproductive activities that men and women do, as well as the shared roles, to understand who does 'more' of what activity. Participant observation of the workshops enabled an understanding of the gendered division of labour, the daily structure of producer's lives, and the interactions between men and women at the community level.

The advantage of the workshop methodology was that the use of images enabled debates and topics to be discussed between the men and women. As Eger et al (2018:354) comment, "Visual methods have shown their worth for exploring relational agency and aspirations, and surfacing emotions and feelings that are difficult to express verbally but are used only marginally in agricultural research for development." In this way, the reactions of producers to differing claims of 'who does more of what task' was effective in eliciting the communication and negotiation between men and women, and their sometimes, differing viewpoints.

Figure 5: Showing workshop activity 1:daily time spent on different labour activities. Source: Author's own.

Figure 6. Photo showing workshop activity 2, starring the relative 'amount' of each of the activities that men and women complete. Source: Author's own.

4.4 Semi-structured Interviews

In total, 26 semi-structured interviews were carried out, 21 of which were with coffee producers, 3 local Solidaridad employees and 2 with other stakeholders in the San Martin coffee industry (see Appendix B and C). The semi-structured interview method was chosen since this type of interview allows for flexibility in the order of questions and follow-up questions can be asked (Hennink et al., 2020).

The interviews with coffee producers took place in producers' homes or farms, visiting 4-5 households per community, and typically lasted 30-60 minutes. In all possible cases, male and female producers were interviewed separately, however, in some cases practical issues (such as heavy rain and house structure) and time constraints meant that couples were interviewed together.

The interviews were designed to capture participant's lived realities of gender inequality within their livelihoods and focused on changes observed since implementation of the project; understanding the changes they committed to in the GALS workshops, whether they had implemented those changes, what effect they had on changing power relations and norms, and more broadly how these changes connected to participants' broader livelihoods. Interviews with Solidaridad staff and external stakeholders were undertaken to understand the project aims and implementation methods, as well as the institutional and broader structural context of the local coffee industry in which the project is being applied. The interview guides differed per-informant type.

All interviews (with Spanish speakers) were conducted with a local (Spanish speaking) translator present and were audio-recorded with informed consent. Audio files were transcribed into English for coding.

4.3 Visual elicitation

Visual elicitation involves using drawings or diagrams in a research interview to stimulate a response. The visual source material utilised in this study were the drawings created by the coffee producers in the initial GALS methodology, prior to conduction of the fieldwork.

Participants were asked to describe and explain the images drawn in the Life Plan and Equity Tree diagrams (see Appendix G) at the start of the interview. This was an effective 'ice breaker', as it promoted participant agency in the interview, reducing the power differential between researcher and researched (Prosser, 2012). Using visual material that the participants were familiar with was useful when breaching the more sensitive topics of gender inequalities within the household, as participants feel less pressured when discussing sensitive topics through images (that they have created) (Prosser, 2012).

Furthermore, the use of the images provided a simple way to acquire information about what was visible in the GALS drawings and understand how participants identified gender inequalities within their lives, and how that intersected with their broader livelihood vision.

Figure 7. Photo showing participant drawings from initial GALS workshops, Equity Tree (left) and Vision Journey (right), used for visual elicitation during interviews. Source: Author's own.

4.5 Participant observation

Participant observation was undertaken during the home visits (interviews), walks to the farms, workshops and a technical training. Participant observation enables ''understanding meanings of human existence as they are constructed and enacted by people in everyday life'' (Jorgensen, 2015:1). This proved a vital methodology of this fieldwork as it revealed subtle, unspoken details of remaining or more entrenched gender norms that were not otherwise touched upon in the interviews, highlighted differences between different families and communities, subtleties that would not have been able to have been ascertained if the research had been conducted remotely.

Observant walks were undertaken in the farms, providing an opportunity for further informal discussion and visual understanding of the practices applied, or problems experienced in coffee production, as identified in the interviews.

Participant observation also allowed observation of the changes in communication and interaction amongst the men and women in public space. For instance, in the workshops, the producers had to debate the differences between the work women and men do relative to one another, and seeing the dynamic interactions, communication methods, vocalisation and negotiation, was important for understanding women's agency, and their 'power-within' achievements.

In addition, observation of a technical training (carried out by Solidaridad) was interesting to understand the attendance of women and men and methods of invitation to the trainings.

4.6 Policy analysis

Policy analysis was conducted on Solidaridad project reports to understand the assumptions and reductions surrounding utilisation of the GALS approach and its method of implementation. This included the impact pathway model, project proposal and mid-term report. Analysis was conducted using a framework of gender transformative characteristics as elaborated in the literature review (section 2.5.2, figure 2), and was concerned with understanding the purposes, assumptions and reasons for the particular the approach being used, in order to, in turn, understand its consequences in outcomes on gender transformative change (Hsieh and Shannon, 2005).

4.7 Sampling

The five communities selected for the study were selected based on 'time-since' receiving the initial GALS workshops, with some receiving the GALS training 12 months prior, whilst others more recently, to assess the importance of this factor (see Appendix A). Five communities were chosen over a smaller number to ensure patterns in the data could be identified and validated.

At the evaluation workshops, participants were informed of the research, and were asked if they would like to be interviewed as part of the study. The interviewees were selected from volunteers and tried to include a range of intersectional identities within the communities namely, age, family structure, and gender champions (see Appendix B), to understand if these factors influenced results. However, selection was also based on practical constraints such as distance between the participants' coffee farms. The majority of the households interviewed were nuclear families, with some female-headed households (single mothers). Both men and women were interviewed due to the inclusion of men and women in the GALS methodology (which aims to promote equality between partners), and the importance of relationality to gendered power relations.

Sampling from volunteers may have had some bias as those that volunteered could have been more intrinsically motivated, thus potentially impacting the reported change in the results. However, every effort was made to ensure that the sample was demographically representative of the communities involved in the GALS methodology.

4.8 Data analysis

Following data collection, interviews were transcribed, de-identified, and coded according to predefined themes based on the theoretical framework (see Table 1), as well as additional inductive codes that emerged. Transcripts were coded using an Excel template for analysis, display, and interpretation of findings (Ose, 2016). A relational analysis was undertaken to understand the experiences of both men and women at the household level and supra-household level, carried out by interviewing both men and women, and observing and analysing their interactions. The study therefore explored the different (and shared) perceptions on change, as defined by the respondents.

The key informant interviews were analysed according to the gender transformative characteristics framework (see 2.5.2) and also used to uncover insights from Solidaridad staff about observed changes in community behavioral patterns and participation.

4.9 Ethics and positionality

Participants were informed of the purpose of this research and gave signed consent before participating (see Appendix E). They were informed that they have the right not to participate or discontinue participation at any time. In order to ensure anonymity, all participants were given pseudonyms, and research records were kept confidentially. All pictures were taken with consent of the participants.

When conducting research, it is important to reflect on who you are and how your identity will shape interactions with others (Valentine, 2005). My positionality as a foreign, white, educated English woman, whose first language is English, with only a small knowledge of Spanish, set me apart from the individuals interacted with in the research. In addition, the power imbalance between the researcher and those being researched, i.e. rural farmers, was significant. This will have influenced to what extent the producers felt comfortable sharing private, more personal stories with me.

This impact was mitigated by working with a local translator, who 1) had cultural knowledge of language and meanings behind certain phrases, and 2) created a sense of familiarity for the producers, fostering greater trust and rapport with the farmers. However, being male, and a

community outsider, the translator may have influenced the responses, and had his own culturally pre-conceived ideas and understandings, which may have influenced his interpretation of responses.

My affiliation with Solidaridad allowed myself and my translator to be introduced to the communities by trusted Solidaridad staff. Having said this, introduction via Solidaridad may have had some impact on the responses of participants, who may have felt the need to 'say the right thing' to ensure receiving future implementation and training. To mitigate this impact, it was made clear in both the consent form and verbal communication that the study was separate from Solidaridad monitoring and evaluation, and that all names would be kept anonymous.

5. Results SQ1: The gendered livelihoods of coffee producers

The results sections (5,6 and 7) will begin in section 5 by understanding the lived realities of smallholder coffee producers in the San Martin region, paying particular attention to gender inequalities within the broader livelihoods of producers (SQ1). This is followed by section 6 which analyses the gender transformative characteristics of the GALS approach used within the Circular Coffee Project (SQ2). The third sub-question will be answered in section 7, by analyzing the effects of the GALS initiative on creating gender transformative change through Rowland's (1997) conceptualization of power, with reference to the gender inequalities identified in SQ1. Lastly, this section outlines the interconnections of the GALS initiative with the broader Circular Coffee Project and coffee producer's livelihood goals and aspirations.

Gender is empirically relational, and thus in order to understand gender inequality, its causes and how it manifests, it is vital to understand the context in which women live their lives (Rao, 2017). Gender is highly integrated with other aspects of productive livelihoods, for instance, capital, assets, finances, and decision making as gender relations directly affect access to and control over livelihood assets, as well as the distribution of benefits. As Rao (2017: 51) puts it, "in aspiring for gender equality and improved wellbeing, the starting point for analyses needs to reflect women's (and men's) lived experiences, their struggles for survival with dignity, and efforts to push the boundaries of opportunities available to them". Therefore, the following section will outline the gendered aspects of smallholder coffee production in San Martin, Peru, in order to understand current gender inequalities.

5.1 Gendered division of labour

Coffee is a 'family crop' meaning that the whole family contributes to the coffee production process. An evaluation of the division of work highlights that women participate in at least half of the coffee producing activities.

However, there are significant divides in the types of labor that men and women do, with disparity between the 'productive' and 'reproductive' spheres. An overview of the activities that men and women described as 'women's roles' and 'men's roles' or shared, from the evaluation workshops is presented (see Table 3).

Table 3 Showing the productive labour roles as divided between men and women (taken as an average from the evaluation workshops). Source: Author's own.

Men's roles	Shared roles	Women's roles
- Planting - Prune bottom branches of coffee trees - Till soil manually with shovels	- Farm design (prior to planting) - Harvesting fruits of coffee - Porterage of coffee - Peeling coffee	- Drying the coffee - Feeding animals - Animal breeding

• Pruning shade trees to control shade management • Fumigation to control pests and disease • Mechanise soil (in secondary rice farms) • Selling coffee	• Fermentation • Prepare soils for nurseries	

The majority of the couples carry out the activities of planting, fertilizing, pruning, harvesting and post-harvesting coffee together. The busiest and most economically active time of the year is during coffee harvest season (February to May), and women's participation in production of coffee is increased during harvest season.

However, it was found that only men tend to operate the more 'physically demanding' roles of coffee production and are in charge of handling equipment such as "chaleadora", "chainsaw" and "fumigator", although some women expressed that, with adequate training, they could operate this type of equipment (Solidaridad, 2020). In addition, the act of going to sell the coffee is primarily the role of the male farmer, with them leading the negotiations. However, interestingly farm design was a shared role and described more frequently as completed by women.

In most of the farms the main crop is coffee, but there are also areas dedicated to other crops such as cassava, beans, plantains, and raising small animals. These more complementary productive activities such as raising small animals and tending to the bio-gardens, which were in some cases commercial, is a responsibility of women, guaranteeing the food and nutritional security of the family. An additional income mentioned by producers was in the way of logging shading trees on their farm.

Table 4. Reproductive roles completed by men and women, and shared (taken as an average from the 5 evaluation workshops).

Men's roles	Shared roles	Women's roles
• Cutting firewood	• Helping children with homework • Tending to bio-gardens • Setting the table	• Carry firewood • Cooking • Cleaning the dishes • Cleaning the house • Sweeping • Sewing • Laundry • Looking after children (young)

Whilst men and women both contribute to household chores, women are responsible for the bulk of them. In addition, women's participation in productive work is conditional upon them completing their household chores and care work, which takes priority. Women's activities are generally taken for granted as 'helping' or 'caregiving', and overall women's activities are perceived as less difficult and valuable (Palacios et al, 2022).

Furthermore, whilst there are mutually shared roles within coffee production at harvest season (see table 3 and figure 8), women are commonly perceived to be less capable of implementing technical changes to the farm.

(Catarina, Solidaridad) "When being trained, it was difficult and still is difficult for them to understand that women can be as good a producer as he is, if trained."

Whilst women are involved in the planning and farm design, due to gendered norms and mindsets, women tend to be less involved in technical implementation on the farm (see figure 8).
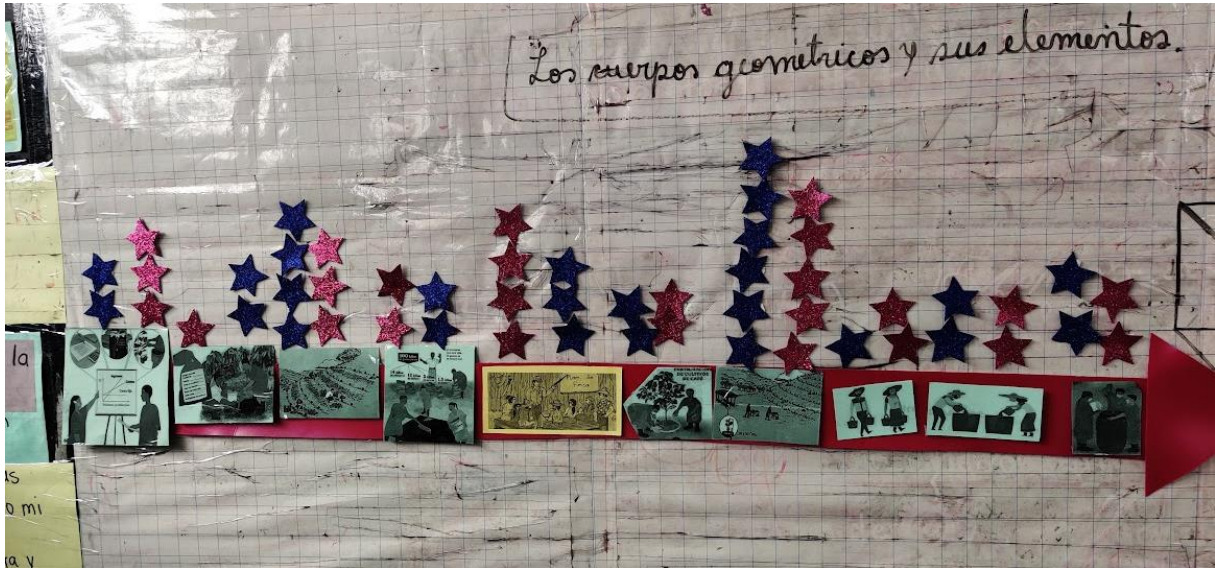
Figure 8. Photo showing results of evaluation workshop activity in which men (blue) and women (pink) had to 'star' productive activities in accordance with who does more of which 'shared' productive task. Workshop Palmeras de Oromina. Source: Author's own.

Smallholder coffee producers also work as day labourers, especially in the cases that their cultivation area for coffee is smaller (approx., 1 ha), so they have more time to work on other farms, and more necessity to do so, to increase income.

(Lorena, female) ''I do work for other owners, they pay 8 soles per can and 30 soles per day''.

Single mothers, however, are more likely to be day laborers, than to hire labour, because they do not have the financial capacity, and need extra income streams, and additionally have to commercialise small-animal breeding for another income stream (when it is not harvest).

(Mannon, female) "I am the only one responsible because my son helps me only in high season because he works somewhere else. But he is responsible for the economic affairs. I work as an operator for other people because we need to get income. I also sell fruit and Cuy when it is not high season."

This highlights that single-mothers are less economically secure than nuclear family households, and rely on smaller productive activities such as crops and animal breeding to ensure enough income outcide of harvest season.

5.2 Gendered spaces

The results of the division of work also allude to the presence of gendered space influencing the work that women do. Gender norms, 'mark' certain spaces as male or female, which in rural contexts is divided between the home (female) and the farm (male) and can serve to reinforce gender norms and behaviours.

For example, women reported doing some productive activities; however, these were mostly those activities that are close to the house such as feeding the animals, operating the greenhouse gardens, or drying the coffee.

> *(Catarina, Solidaridad) "Every technical activity that is close to the house, are the ones where women participate more. For example, composting or preparation of a liquid fertilizer and also the greenhouses. That is something that doesn't imply commuting to the finca.''*

This was reported to be due to greater household responsibilities, primarily looking after the children, cooking and cleaning. In addition, this is related to traditional ideas and norms about men being the primary market-oriented farmers in the family.

5.3 Time burden

The proportion of time spent during the day on different activities was measured in the workshops. Typically, men spend nine hours a day on the coffee farm, whilst the women around seven. This was typically due to responsibilities such as making lunch, which involved going back to the house to cook (in some cases a distance) and takes about two hours.

However, these daily routines vary based on whether the coffee is in harvest and if the children are in term-time. The women reported that if the children are in school, they have greater childcare responsibilities including getting them ready for school and cooking them breakfast and lunch. In addition, the men on average enjoy more time for leisure than women for activities such as football or watching television. In some cases, extended family members helped with childcare or tending to the coffee farm, particularly the case for single mothers.

5.4 Land ownership

Land ownership is a complex issue in coffee production in San Martin, and one that is highly gendered.

In order to tackle this, the producers interviewed did not formally own their land. This is because, in all community cases in this study, producers were internal migrants, having migrated from the highland regions of Peru, looking for more fertile soils and economic opportunity (see Appendix A). In cases where producers were second-generation migrants, land was often inherited from parents. However, in cases of first-generation migrants, the land was often occupied and then made claim to by the producers, however, often non-legally.

> *(Anna, global coffee expert, Solidaridad) ''In Peru not all the producers have land titles, but you have some sort of document where you can say you are the owner of the farm. That enables you to go and join the cooperative as a member.''*

There are three types of land document obtainable, 1) Title of property (Titulo de propiedad), is maximum title awarded by the State and is registered in public state records, 2) Document of tenure and certificate of possession (Documento de tenencia y Certificado de posesión), which proves that they can peacefully work that space but is a legally non-binding possession, and 3) 'Compra venta', issued by a public notary that gives public recognition of occupation, but is not registered with the state as titled land. The Compra Venta is the most common document obtained by coffee producers, however, is limiting for producers, as it does not allow them to access credits and mortgages (C. Roman, personal communication, 18/05/2023).

However, in order to tackle the land ownership problem, currently the Peruvian government is implementing a new initiative called ''Assignments in use for agroforestry systems'' (CUSAF), which is a type of enabled contract or title recognized in Forest Law that formalizes the forestry and agroforestry practices of family farmers. CUSAF contracts are granted in an extension of no higher than 100ha and have a duration of 40 years (renewable) and involve rights and access to benefits such as technical assistance from the forest regional authority, and other financial and discount regimes as well as that it may be bequeathed by will. In return, obligations include sustainable management, agroforesty, and soil and water conservation obligations (C.Roman, personal communication, 18/05/2023).

However, as commented below, this is not available to all producers, and is only granted in eligible areas of forest zoning; agroforestry production areas, silvopastoral (forest grazing) production areas, or recovery areas.

> *(Catarina, Solidaridad) "However, this also has its own limitations because it is not granted to all coffee producers, it is distributed according to the classification of major land use that is within the territorial ordering.''*

Land tenure and ownership is a particularly gendered issue as land and property titles are often under men's names. Furthermore, coffee-growing families are often co-habiting rather than married, as such, land is not automatically inherited by partners in the case of death. The majority of producers in the research study, however, reported that at least some of their plots of land were jointly titled under both names. In some cases, the man owned another plot of land additionally, that he typically had acquired before entering into the partnership.

> *(Rocioi, male) "One of them is under my name because it was inherited when I was single. The other two have a private contract under the names of both of us. But these are the ones that have problems because it is still under the process of being legalised''.*

Interestingly, in one case, a couple was initially living on land inherited by the woman, but then when they moved to grow coffee, the land bought was primarily under the man's name, highlighting that it is common practice for land to be registered under the husband or male partner's name.

> *(Sixto, male) "Primarily the land is under my name. We have three. Two of them are under my name, even though we were together they were registered under my name. The third one is registered under my name legally, but because of an agreement we went to a justice office and we declared the land both of ours.''*

The major differentiator, however, was single-mother households, where the woman owned the land solely, providing some positive impacts for access to resources in terms of cooperative membership and access to resources, as detailed below. In general, a lack of land ownership was also correlated with lack of literacy, a common pattern amongst the older women in the study population.

5.5 Access and control of resources

The majority of producers involved in the Solidaridad Circular Coffee Programme are members of cooperatives or direct beneficiaries of the technical trainings run by OFI or Solidaridad.

The main mechanism through which coffee producers can gain access to resources such as of loans, technical training, seeds, plants, markets, technology, information, water, education and other services, is through membership of the cooperatives, or extension services provided by NGO-led projects. Membership of cooperatives can enable farmers to obtain a better price (through organic/fairtrade certifications) and gives farmers a say in how these price premiums are spent.

> *(Anna, global coffee expert, Solidaridad) "Those are the three things; technical assistance, being able to sell your coffee at a better price and making decisions about your organisation".*

Having said this, around only 20% of producers are members of cooperatives in San Martin, implying that many producers are still isolated from access to resources and better prices (Garner et al, 2020).

Government support is present in the form of agrarian bonds that cover fertilisers, in addition to agricultural projects such as AGROIDEAS, that extend assistance. These national programs are executed by the regional government, municipalities and AGROIDEAS, and work with some

cooperatives to reach producers. Low interest credits can be obtained through AGROBANCO, as long as the producer is a member of an organisation/cooperative, since the organisation/cooperative gives a guarantee to the producer requesting the credit (C. Roman, personal communication 15/05/2023).

Access to resources through cooperatives can be seen to be a key gendered issue, as due to the nature of cooperative membership whereby only one member of the family can be a member, this role is occupied by the 'head of the household', or 'primary farmer' which is primarily perceived as the man. Furthermore, the issue of land ownership interconnects with that of cooperative membership, further restricting access to resources for women.

> *(Anna, coffee expert, Solidaridad) "what happens is that the ones that are members of the cooperative tends to be the men because they are the ones that have the document [evidencing land ownership]''*

An exception to this is in the case of female-headed households, whereby the woman is the 'head of household', and 'primary farmer', and thus, often the named cooperative member.

This is a key problem as cooperatives are the main institutions (outside of NGO-led projects) for access to resources and decision making for coffee smallholders, and thus present a key limiting factor to women's empowerment and development.

In terms of control over resources it is typically the men that report being the ones to travel and sell the coffee and negotiations are usually executed by the men. Men typically decide on purchases of land and large animals, whereas women complete purchases for domestic expenses such as water, electricity, food and education (Solidaridad, 2020).

5.6 Community Leadership

At the community level there is almost no representation of women, as most public positions in the community are held by men.

In communities there are generally three leadership positions, the municipal agent (agente municipal), lieutenant governor (teniente gobernador) and president of the round (president de ronda), (in charge of security in the community). The municipal agent acts as the link with the district provincial and regional governments, and is a resident directly elected by the residents of his constituency to hold office for a period of 2 years. The Lieutenant Governor directs, supervises and evaluates the management and action of the political authorities in the area of jurisdiction (C.Roman, personal communication 18/05/2023).

These are positions occupied solely by men due to gendered socio-cultural norms that consider men as more suitable for public positions of power and decision-making, as they are the managers of the farms and economic activities. Therefore, representation of women at the community level is minimal. In some cases, women participate at the community level in a 'club de vaso de leche', which is a social program that delivers food to children (C.Roman, personal communication, 20/05/2023).

5.7 Financial income

Income from coffee was reported as unstable, due to fluctuating coffee prices on the international market, uncertainty about getting a higher price for higher quality, and the unreliability of crop production, due to diseases such as the Coffee Rust plague.

> *(Camila, female) "Unluckily prices affect us. We can produce a lot, but we do not have the money as expected as the price has gone down."*

Fluctuating prices are due in part due to the global macroeconomic structure of the supply chain, determined by the New York Stock Exchange reference price, which varies based on quality.

> *(Anna, global coffee expert, Solidaridad) "Depending on the country origin of the coffee, there are generalized penalties or additions, due to average quality. Peru obtains a lower rate than Columbia for an average of 1.97 dollars per pound of coffee, compared to 2.10 in Columbia. However, depending on certifications it is possible to gain price premiums, fairtrade (20c) organic (40c)."*

These fast-paced macroeconomic dynamics greatly influence producers' income security, as they cannot rely on high prices, and cannot 'plan' to sell their coffee with higher prices due to harvest times, unpredictability of the market, and need for income.

> *(Florina, female) "For example, last year we were in a hurry, we sold our coffee at one price, then in 8 more days the price changed dramatically, 200 soles per quintal, and we lost more than 2000 soles."*

Producers sell their coffee to local intermediaries, cooperatives, or coffee buyers, from whom they can gain a higher price, if their coffee meets certain quality standards. However, producers expressed confusion and frustration about inconsistency in gaining a higher price for improved practices and quality, and that coffee-buyer organisations and cooperatives do not always offer a better price.

> *(Pedro, male) The cooperatives come here offering prices and only some of them know that the coffee price is stated with the stock market around the world, but that doesn't necessarily mean the buyers respect that price. Even though we know that the real price is higher, the coffee buyers usually offer less. If we need to sell, we do not get the fair price.*

In addition, whilst cooperatives and coffee buyers may be able to offer a higher price if a full assessment of coffee is done, producers are reticent to pay for transport to the cities where these assessments are done (in part due to lack of disposable income), and so sell to intermediaries who come to the community directly, contributing to a negative loop whereby producers struggle to gain access to better prices.

> *(Camila, female) "Well actually my expectations are high, but the buyers, they come here to the finca and buy the products, they have a sample and they say, ok this is what I can pay and that is what I have to accept."*

This seems to be an even more pertinent issue for producers that are not represented by a cooperative and are financially and physically (in terms of childcare responsibilities) limited from going to the city to sell their coffee, i.e., single mothers.

However, whilst nuclear households seemed less financially precarious, the sharing of income within the household is not always equal.

> *(Catarina, Solidaridad technician) "women have incomes for themselves using small circular activities, not necessarily directly from the coffee production…husbands do not necessarily share their profits with them, even if the husband agrees they could share things, that is not necessarily what happens…That is accepted, it is okay for men, and that is the way it should be that the men make the decisions and spend the money. It is absolutely normal for women, and they accept that and live with that.''*

> *(Catarina, Solidaridad technician) "men sometimes spend the money on many other things, sometimes drinking, and the sharing is not equal''*

In this way, the income streams from coffee, are primarily controlled by men, whilst income from other practices such as small-animal breeding, is controlled by women.

In addition, families with multiple dependents, i.e. children and young grandchildren, experience more economic strain. This is more pronounced for single mothers as they typically work alone on the farm, and may have more financial dependents, with fewer income streams.

> *(Mannon, female) "There is a difficult situation for me because my son is still an adolescent of 13 years old but he has a daughter of two years old. Yes, there was a positive change, but now I have to take care of my son, his daughter and his spouse. So the positive benefits haven't been seen because of that fact. The older one from time to time sends me some money."*

In general, the economic position of smallholder farmers is structurally insecure, and more precarious for single mothers, families that are not represented by cooperatives, and families with multiple dependents, and is exacerbated with all three.

5.8 Environmental challenges

As alluded to above, coffee crops are subject to insects, plant diseases, changing weather conditions and the effects of climate change.

Climate change was reported to be a concern for producers, particularly with regards to more extreme weather events such as heavy rainfall, unpredictability in the onset and duration of rainy seasons, and greater temperature extremes. However, producers commented that they are able to manage these by implementing good shading practices, learned from technical training (from Solidaridad and past extension service programmes), and better crop and soil management.

A more urgent and pressing issue in the eyes of the prodcuers, is the coffee rust plague, which represents a more immediate risk to producers' livelihoods. The recent coffee rust outbreak peaked in 2013 in Peru (Avelino et al., 2015) and caused a reduction of approximately 40% in national production. As a technician comments, the Roya plague significantly reduces crop yield, and thus the income to farmers.

> *(Edgar, technician, OFI) "if this cafeto hasn't been grown with organic fertilisers and practices for shading and cutting out of the leaves etc, it would be a disaster. A regular farmer that projects 20 quintals. If that happens to him, he would produce only 10 or 12…If you survive Roya…it needs one extra year for leaf recovery and treatment, because it is the leaves of the cafetos that strengthen the plant. So for a complete recovery it is one extra year, and that is one extra year of limited production. So that absolutely affects the economy of the farmers."*

Figure 9. Photo showing presence of the 'Roya' (Coffee Rust Plague). Source: Author's own

A female cooperative board member in San Martin also recalled severe food insecurity experienced by producers during the last coffee rust crisis, because of very little income.

> *(Martya, female) ''Roya started and other plagues, and when everything was coffee in the finca, they didn't have anything to eat, so we decided to implement the greenhouse projects for the women producers. Because when the husbands lost their fincas to the Roya we were in real problems. I am one of the pioneers to implement this. I couldn't see farmers suffering when this situation happened. So that is when I started implementing this and I started learning more about technification.''*

This highlights the structural precarity of producer's livelihoods, as they are so tied to and dependent on the yield and quality of the coffee crop.

5.8.1 Out-migration

In extreme cases, when a low coffee price correlated with the coffee rust plague, the man leaves the farm to find another source of employment.

> *(Eduard, male) "I left to the town to find a job because we needed income because the production was not as expected."*

> *(Ricardo, male) "As soon as we are finished with preparation, and before it is time for the coffee to be harvested, in the mean time I usually go to the city to get a job. That is how we survived and overcame the situation last year."*

Men leaving to find work in other areas puts a greater labour and time burden on women, increasing the risk of child labour as the woman may be unable to complete all the tasks. This highlights the vulnerability of coffee producers to environmental shocks, and the relative precariousness of their livelihoods. Single mothers however, do not have the physical capacity to do this, due to need to look after the farm, pointing to the greater vulnerability of them to environmental shocks.

5.8.2 Farm diversification

Some producers use farm diversification to adapt to insecurity of income and provide a vital security net in terms of income and food security in the case of plagues.

> *(Florina, female) "last year was terrible for us, we survived with the hens, so we had to grow them and sell the animals in the city as meat so that we could have some income. The rest, we survived with all the productions here, the plantains, the yuka."*

Implementation of 'kitchen gardens' was reported as something particularly important for women as it gave them a stream of income when men travelled to the city looking for other work, and furthermore, reduced the money and time needed to travel to the city for food, potentially reducing their greater time burden.

Figure 10. Photo showing implementation of 'kitchen gardens' as part of a previous extension service project. Source: Author's own.

5.8.3 Crop management

The coffee farmers try to combat plagues actively through good agricultural practices and the planting of rust-resistant varieties however, they often struggle to afford new varieties.

> *(Ricardo, male) "We could easily control Roya but the problem is the cost of the chemicals and other organic ingredients we would need to do so. I can do it, but if I don't have the money to buy the pesticides or organic substances to control that, it is worthless."'*

In extreme cases, producers report that re-planting their entire finca would be the best option, however, this is highly costly, and the producers do not have insurance (de Resende et al, 2021).

> *(Catarina, Solidaridad) ''The coffee producers do not have any type of loss insurance. To date this is only applied on the coast of Peru with other crops such as corn, watermelon, yellow pepper, cotton."*

Therefore, we can see that gender socio-cultural norms and unequal power relations manifests in coffee producers' livelihoods in terms of unequal division of labour, time burdens, limited access and control or resources, unequal financial income and leadership positions in San Martín. Furthermore, the intersections between low income, economic insecurity, and environmental risks compound to create an exacerbated impact on the capacity of producers to execute their livelihood goals and aspirations, with more pronounced impact on women, particularly single mothers. This presents the 'ground point' situation on which the assessment of gender transformative change to producers' livelihoods in the following sections is based.

6. Results SQ2: Exploring how far gender transformative potential is visible within the project approach

It is important to analyse the conceptualization and implementation of a gender approach from the perspective of the development organization, as Rao (2017) argues, "The theory and concepts we deploy have material consequences''. Indeed, the design and implementation of a project is highly influential on ground-level outcomes. The GALS methodology itself has its own underlying theory

and history of implementation, which effects how it is implemented, but further, organisations and NGOs adapt the methodology to be suitable to specific project goals. Therefore, it is important to analyse the specific adapted GALS methodology in the Circular Coffee Project. As such, this section will analyse the gender approach used within the Circular Coffee Project using the principles framework of GTA characteristics (MacArthur et al, 2022) as elaborated in the literature review, with the addition of organisational bias, exploring how far gender transformative potential is visible within the project aims and its implementation.

6.1 Is the approach motivated towards gender transformative change?

The GALS approach is motivated towards profound gender transformation and is grounded in strategic gender interests as it is oriented to challenge social and cultural gender norms within the family. GALS goes beyond economically empowering women or building agency aiming to address the root causes of gender inequality, namely addressing socio-cultural norms and values that restrict women's access to and control over resources (Singh et al, 2022). This level of intervention is appropriate for coffee farming considering that it is largely a family crop, meaning that all members of the family have input into the production process. In addition, the methodology takes a relational approach, including both men and women and focusing on the interactions between them, moving away from previous WID approaches that conceptualise women as the solution and men as the problem (Singh et al, 2022). In addition, it rejects the assumption that participation of women alone in agriculture and training will transform 'the hegemonic order', and directly works with and seeks to balance power amongst couples (Verloo, 2005).

The methodology was chosen for its ability to "change dynamics that are really difficult to change" and was adapted for the specific Peruvian context and project by gender consultants, who trained Solidaridad field staff, who the workshops were then delivered by.

Having said this, looking at the project 'Impact Pathway' model highlights that the intention of the project is more broadly an economic one, with ''women's greater participatory decision making'' linking to broader aims of ''improved economic position of producer families'', ''reduced deforestation'' and ''improved investment opportunities for resilient circular coffee cultivation farming systems'' (see Appendix D). Indeed, the positioning of GALS under a broader objective of circular cultivation and as a step in the theory of change model points to inclusivity and instrumental goals rather than transformative and intrinsic. The ultimate goal of the project is income and circular cultivation focused, and the GALS approach is positioned as a way to get there. This suggests that gender transformative intention is needed at the motivation and design stage of the project, and with all partners, in order for it to be truly transformative.

6.2 Is the approach systemic and multi-level?

The approach taken is systemic in that it focuses on the social norms that perpetuate gender inequalities. However, the approach design is does not look at the systemic nature of gender inequality in terms of its multi-levels. The chosen approach is focused on the personal, household (and community) levels, but does not look at broader power structures that may influence gender inequality. This is recognised by Solidaridad employees;

> *(Luna, Solidaridad) "in order to achieve sector transformation we also need to work with different actors in the value chain. So if we just try to make any transformation at the family farm level it is not enough, we need to work with traders, cooperatives, family institutions."*

Whilst Solidaridad does work in the lobbying policy and in international arenas more generally, within the project this is not the case.

> *(Anna, Soldiaridad) "In Peru there is more of a field focus"*

This highlights that within the Circular Coffee Project there is lack of attention to the meso and macro levels of gender inequality, presenting a barrier to systemic and multi-level gender transformative change.

The GALS methodology, however, is separate from other elements of the Circular Coffee Project, namely circular cultivation, climate adaptation and economic goals, suggesting that the gender approach is not connected with other dimensions of the project. The GALS workshops are somewhat linked to technical trainings, through the Vision Journey tool, which encourages participants to think about the future of their coffee farms, and plan implementation of practical changes to promote more productivity and quality, increase pest and climate resilience, and reduce input costs. Thus, the GALS methodology aims to connect gender issues with the livelihood goals of coffee farmers, namely improved income and climate adaptation. However, the conduction of the GALS workshops, separately from the technical training, and the absence of gender strategies within the technical training pertains to the lack of a GTA approach that spans the whole project, and potentially misses out on opportunities for wider transformation.

6.3 Are diverse identities considered?

Where the GALS methodology is lacking is in considering diverse identities and taking an intersectional approach. Whilst the approach and the implementation takes into account the local context and adapts the trainings to specific cultural issues, it does not challenge the notion that there are only two gender identities (male and female), that are the same everywhere. There is little attention to intersecting systems of oppression based on gender, class, race and migration status, and other factors such as culture, and the methodology is not altered to cater for these differences. Additionally, the approach can be seen to target heteronormative nuclear families, as it aims to tackle gender inequalities between partners at the household level, putting into question how well suited the methodology is to other household structures.

As the report will later elaborate, this is highly relevant in this case given the additional challenges to transformative change to single-mothers and illiterate women, and the differences in levels of transformative change based on age and migration origin that is discussed in the following section.

6.4 Are transformational methodological practices in evidence?

The given approach embraces transformative methodological practices in its implementation. The GALS approach takes a feminist and gender transformative methodological approach, as a gender adaptation of Participatory Action Learning System (PALS), which sees the connection between unequal gender and social relations and development goals (Singh et al, 2022). It encourages women and men to identify those barriers, using participative approaches and visual tools such as drawings. In this sense it uses participatory methods to 'hear' directly from producers themselves and enable them to reflect on their own visions for change.

The use of drawings to encourage reflection and discussion is inclusive, enabling those who are illiterate to participate. Additionally, it reveals inequalities that are not normally addressed or spoken about.

> *(Female technician) "Applying this methodology they realise that things are not as they think they are…people don't speak about it"*

In addition, *how* change towards gender equality is defined in the GALS methodology is in the hands of the producers. Rather than disseminating information to the participants about what changes should be made, the producers are encouraged to identify their challenges and life goals and think about the changes they want to make for the greater benefit of the family. The tools of the Life Plan and Equity Tree therefore represent enablers for this process.

However, despite utilising a gender transformative methodology in implementation, this does not translate into evaluation and monitoring of the project. Currently the project evaluation and monitoring is oriented around tight project deadlines and quantitative goals, which in the case of this gender inclusion in the Circular Coffee Project involves engaging 1500 producers in the gender trainings. This was reported as a challenge by organizational employees.

> *(Layla, Solidaridad) "Project managers are sensitized on these things. But the thing is that they are asked to achieve targets that maybe put them in a position that is uncomfortable and for them to reach that target…and that is not something that comes from Soldiaridad. Donors want us to have these targets of number of producers, number of actors, volume of tons of GHG emissions sequestered…and that puts a great pressure on us. So, programme managers of course want to meet those expectations. As a result, they think…ok let's cut those things that are not a target… social exclusion at least in the RVO project you have the target, 1500 families with their vision plans so you have a target there. But If a project does not have a gender and social inclusion target, it is too easy for programme managers to cut the budget on these topics."*

Increasing demand from donors to oversimplify evaluation and monitoring and reach targets quickly, puts high pressure on staff and ultimately undermines qualitative, long-term goals, such as gender transformative change, which are more difficult to measure (McDougall et al, 2021). Therefore, there is misalignment between the social norms changes that the gender transformative approach is trying to achieve and its evaluation mechanisms.

> *(Layla, Solidaridad) ''I am not sure if we are going to be able to prove as a project, like with indicators, that this was transformative…it is too short term to measure that. These are behavioral changes that take time''*

However, difficulty in measuring gender transformative change also plays a role, due to a lack of developed, and tested indicators that evaluate gender transformative change, a broader problem in measurement of gender transformative approaches in the NGO world (McDougall et al, 2021).

6.5 Evidence of organisational biases?

There is also a disparity between gender transformative goals at the organizational 'narrative' level and project implementation. Organisational staff indicated that taking a "root cause'' approach to gender was needed, but that practical realities and partnerships were not at this level. Indeed, this aligns with other findings that development organisations describe their gender learning agenda as aspirational in nature, more than in practice (Mullinax et al, 2018).

The unique position of Solidaridad, being a primarily economic development focused organization, situated between improving the livelihoods of coffee farmers and working with international corporations in global supply chains, involves the risk of gender transformative approaches becoming 'watered down' by other development, or economic agendas.

In the case of the Circular Coffee Project, this is also related to the economic motivations of the project partners, (Douwe Egberts and OFI), which are key coffee market actors. Situating the GALS approach within the aims of the broader circular coffee project, we can see that the gender transformative approach is being co-opted somewhat by agricultural productivity goals. The presence of economically oriented project partners, which have a primary interest in ensuring premium quality coffee, and stability of production in a changing climate, influence the implementation of the gender approach. Technicians that work in the communities delivering these trainings are influenced by these goals and rhetoric and describe the GALS workshops as being used to promote efficient quality and quantity of production.

> *(Male technician, OFI) ''Even though we are the regular buyers of coffee, we have noticed that in the last years the production has been diminishing year after year. So, when we noticed that we decided to investigate and research about it, and we realized, yes it's only men that did the job. Whereas in other places it is the whole family working. So, what we decided is to start a project to join forces, not only having the male producers but also their families. So that is why we got in contact with Solidaridad and started working on this big plan and the first results have changed. Now we have more production and more quality.''*

This comment highlights that a project partner's main incentive was to increase production and quality due to concerns about reducing productivity (potentially as a result of climate change, plant diseases or poor production methods). Whilst increasing production will likely improve the economic security of families, the underlying motive appears to be to ensure sufficient future production to supply the market.

The differing priorities between Solidaridad and its implementing partner, is underlined by the different names of the project community leaders for each organisation, named 'model farmers' by OFI and 'gender champions' by Solidaridad, even though in practice they are one and the same. This highlights that implementing project partners may have misaligning priorities when it comes to gender transformation, and its relative importance.

Furthermore, we can see that in trying to have multiple sustainability, economic and social goals, the gender transformative approach can be lost. In the process of turning into a comprehensive and wide-reaching approach, gender transformative approaches can become too 'light' on transformation and intersectionality.

Indeed, the gender policies and cultural environment of the development organisation itself can be a limiting factor to the success of a GTA. Solidaridad staff at the global level recognise the need for this awareness.

> *(Solidaridad coffee expert): "It is about language, it is about how you deliver it, it is about having our own team who are not only men. Agronomists tend to be men, so we have in each country put a great deal of effort in to find agronomists who are women, and training the men to change their dynamics at the family level…and also the language they use, and the time of the trainings, and how can we reach out to those that are not necessarily on the lists of producers, but those outside."*

However, despite this awareness, the five members of staff responsible for the execution of the GALS workshops in the local office, are all female (despite many male technicians), whilst on the other hand, it is common for the male technicians to implement the technical trainings of the Circular Coffee Project. This association of men leading the technical trainings and women the GALS trainings is reiterating and reinforcing the gendered notion that technical ability and implementation is a man's domain, as seen in other climate-smart agricultural interventions (Resurrección et al, 2019). This inconsistency between global level intention and ground level interventions can influence the potential potency of gender transformative approaches.

As will be explored in the following section and discussion, these project level motivations, assumptions and choices affect ground-level implementation and thus the outcomes of GTAs.

7. Results SQ3: In what ways does GALS contribute to changing gendered power relations within the context of producer's broader livelihoods?

The following findings section elaborates on the effect of the GALS approach on changing power dynamics and social norms, referring to results from the workshops and interviews, to understand

the extent of gender transformative change. It does this through the four types of power; 'power over', 'power to', 'power within' and 'power with', as adapted from Rowland (1997). In addition, this section considers the integration of these power dynamics and norms within the dynamic context of producer's broader lives, including factors such as the coffee rust plague, climate change and economic uncertainty. It further considers the remaining institutional barriers that limit gender transformative change in San Martin.

7.1 'Power over'

7.1.1 Recognition of women's labour

The GALS methodology aims to encourage the recognition of the importance of women's work to the economic and overall well-being of the family. This proved evident in the evaluation workshop discussions where women and men acknowledged that women undertake a greater range of tasks than men, and that women do the bulk of household chores.

> *(Luna, female) "The opportunities we had to talk to the male leaders or participants, they say oh come on women work even more than us, they help in the house and in the farm…They are now conscious of that and respect women even more because of that. There is a different perception from the side of male producers."*

This highlights consciousness of not only the unequal division of labour but the value of women's work to the family, leading to increased respect for women within the household. As McDougall et al (2021) argue, a recognition of the full value of women's work contradicts the common belief that male breadwinners should have the final say over household expenditures and decision-making, highlighting that recognition of women's work is a first step to broader equality goals within the household.

7.1.2 Division of labour

All producers highlighted that they divided tasks more equally as a result of the GALS workshops, with reports of them 'helping' each other more frequently, with women working on the finca and the men with household work.

> *(Eduardo, male) "I have committed to help her with the children as she is also busy"*

> *(Javier, male) "It is true we distribute the activities between us, and sometimes when I come home and she is doing something else, I am logging the wood for the fires or cleaning up and setting up the table."*

Greater sharing of responsibilities between the house and finca (as shown in the highlighted version of Table 1 and 2 below), blur the lines between traditionally highly segregated gendered roles and spaces, highlighting that the binary gendered divisions between the home and the finca are becoming less stark and more acceptably transgressed.

> *(Rocio, gender champion) "I have witnessed positive changes. Now the husbands are not reluctant anymore to help their wives. In the greenhouses both of them participate. Everyone in the community have these bio gardens, and I have noticed there has been a change, but I expect that there will be more changes in the future because this is something new for us."*

> *(Fernando, gender champion) "It is clear that one of the most outstanding changes is that the roles of men and women assume in the administration of the finca. The women participate more now in all of the processes, voluntarily. They as part of the family, and*

seeing and understanding the necessity to help their spouse, they participate. On the other side men are more keen to help their wives at home."

In addition, these comments highlight greater inter-dependency between couples, which in turn leads to more mutual respect and appreciation of each other's work and subverts the traditional belief of some male producers that women are less capable of farm work.

In general, the 'tool' used in the GALS methodology most attributed to greater sharing of work tasks was the Equity Tree.

(Carmen, female) "it is the equity tree that impacted us the most, because it showed us that if you work together, the benefits are going to be for the both of you''

(Rocio, male gender champion) "I noticed that in the equity tree, I distinguished there are things that we usually do, me, my spouse, the kids, you know, the responsibilities. Because the activities are on an everyday basis, before I did them without noticing."

However, whilst women seemed to be participating more in the productive work on the finca, women still remain largely responsible for household chores, as shown in Table 1 and Table 2, summarising the results from the evaluation workshops. Whilst there is increasing recognition of the work of women in the productive sphere, there is less change in the involvement of men in reproductive spheres. The evaluation workshops highlighted that men are particularly reticent to involve themselves in cooking, laundry and feeding the animals (see figure 12).

Table 5. Division of productive labour between men and women. Embolded tasks are those that are increasingly shared since GALS. Source: Author's own.

Men's roles	Shared roles	Women's roles
- Planting **Prune bottom branches of coffee trees** - Till soil manually with shovels - Pruning shade trees to control shade management - Fumigation to control pests and disease - Mechanise soil (in secondary rice farms) **Selling coffee**	**Farm design (prior to planting)** **Harvesting fruits of coffee** - Porterage of coffee **Peeling coffee** - Fermentation - Prepare soils for nurseries	**Drying the coffee** **Feeding animals** - Animal breeding

Table 6. Division of reproductive labour between men and women. Embolded tasks are those that are increasingly shared since GALS. Source: Author's own.

Men's roles	Shared roles	Women's roles

• Cutting firewood	• **Helping children with homework** • **Setting the table** • Sweeping	• Carry firewood • Cooking • **Setting the table** • **Cleaning the dishes** • Cleaning the house • Sewing • Laundry • **Looking after the children (young)**

Figure 11. Showing starring of women's contribution to typically men's roles in the farm (by women). Evaluation Workshop Nuevo Jaen. Source: Author's own.

Figure 12. Showing starring of men's contribution to typically women's roles in the farm (by men). Evaluation workshop, Nuevo Jaen. Source: Author's own.

Furthermore, it was found that women's participation in productive work is conditional upon them completing their household chores and care work, which takes first priority.

> (Carmen, female) "When it is about the finca, or time of harvesting we share the activities, sometimes he washes the coffee and I prepare the space to dry the coffee. But first, I prepare the activities in the house and then I go to help in the chakra."

This is suggestive that whilst behaviours surrounding traditional divisions of labour are changing, it is not to the extent that women are relieved, in a significant way from their childcare and housework responsibilities. As the above images show, men still are reticent to help out in tasks such as cooking, laundry and feeding the animals.

In addition, the farm and the finca are still labelled as 'male' and 'female' spaces by many producers.

> (Alejandra, female) "I promised to be committed to change some things, but it is a process. He used to help me but not so much, so I had to convince him and make him understand that sharing the responsibilities, on my side in the house and on his side, in the finca."

This highlights that there is still a binary division between the home and the farm. Whilst the producers cross these physical boundaries more frequently in day-to-day activities when sharing tasks, they are still conceptualised as gendered. As such, it can be delineated that the man is still thought of as the 'primary farmer' and the woman as the 'primary caregiver' within the family.

7.1.3 Decision-making

All producers commented that the GALS workshops contributed to an increase in communication within the family.

> (Rocio, male gender champion) "Another thing which I noticed was missing was the level of communication between different members of the family. Me with my spouse, my spouse with me and me with the kids. That is something that I needed to improve."

This increase in communication also promoted an increase in the sharing of decision making between spouses and also young adult children.

> (Veronica, female) "He used to make all the decisions. Now we both make the decisions in the benefit of the family".

> (Luis, female) "We now make decisions together with our son included. He is now old enough (19) to understand and help us."

However, the type of decision in question may affect women's level of participation. Typically, the women made decisions about smaller everyday finances, whilst men, the bigger investment decisions. However, this was also dependent on intersectional dimensions. Younger producers (<35) exhibited equality in decision-making, particularly in respect to both parties expressing their opinion, and a conclusion being mutually reached.

> (Sofia, female, partner of gender champion) "Always before making a decision, we both exchange, and from there we always make a decision for the benefit of both and we respect the opinions before deciding"

This highlights that structures of negotiation and decision-making are changing but are also highly dependent on a number of factors, particularly age and illiteracy levels.

7.1.4 Control over income

The division in control of finances in the family varied amongst producers. Older couples, in particular exhibited more extreme traditional ideas about men controlling the income with one older male producer exclaiming in a workshop, *"over my dead body- i control the income"*, highlighting the persistence of gender socio-cultural norms relating to men controlling finances in older generations.

Whilst some producers initially suggested that they both decide how to spend their income, the nuances of how these decisions were made varied. Notably age affected this dynamic and within the older couples, the money seemed to be mostly kept and spending controlled by the man;

> *(Carlos, male) "Sometimes I buy things or invest things, but my wife knows about it,"*

> confirmed by his wife, *(Diana, female) "we have some savings but it is my husband who keeps that money.''*

In this case, whilst there is clear communication on what is spent, the wife is not consulted about it beforehand, and does not have physical (immediate) access to it. In addition to age, illiteracy levels also correlated with a lack of women's control over finances, as well as general household decision making, as in the case below, the wife was not old, but illiterate.

> *(Rocio, male) "I am responsible for now for the management of money. We coordinate when we spend the money, she knows what we spend the money on, in education, food and debts and of course some savings, because coffee is unstable".*

In comparison, the younger generation of producers divide money more equally. The daughter of the woman quoted above (Diana), was more equal.

> *(Alejandra, female) "I keep it or he keeps it, but if he keeps it in a physical place, I know where it is. So both of us know about where it is. Every time we do some shopping or we make an investment, both of us decide on that."*

This highlights that amongst younger producers, money is no longer seen to be a man's role. It can therefore be said that attitudes towards decision making surrounding money are easier to change amongst younger producers.

Additionally, some participants expressed that they had been organising their finances equally prior to the workshops, highlighting that the change is not necessarily a result of participation in the workshops, but rather more affected by generational change in gender norms and behaviours.

7.1.5 Mobility

Traditionally, men transport the coffee to the city to sell. This is a result of safety reasons concerning women carrying a large amount of money, and women's childcare responsibilities. However, this is changing, a finding consolidated by a representative from Olam.

> *(Rocio, gender champion) "I am planning to take my wife to sell the coffee so that she can know where to go and how i do it''*

> *(Veronica, female) "One of us goes to Soritor to sell the coffee, and from that money I would buy whatever I consider is necessary for the family."*

Women's mobility in access to training and workshops outside the community is restricted. In the past this was also said to be because the men were afraid of their partners flirting with technical trainers, exhibiting control over women's mobility, a mindset that is reported to be changing. However, in one community, decisions about women's access were made by the gender champion within the community (male), who decided that women would not go to the technical trainings in addition to the men because travel was too expensive. There are therefore some remaining ''power over'' autonomy

restrictions on women's mobility and autonomy by men, limiting their access to knowledge and skills development.

7.1.6 Leadership

All gender champions in the communities interviewed were male, presenting a structural barrier to women entering leadership positions. In addition, the gender champions were also often correlated with traditional community leadership, maintaining current leadership structures.

Although the gender champions have been trained on the GALS methodology and on circular implementation practices in creation of their 'model farms', there is a cultural norm pertaining to the relative lack of education of producers and their inability to facilitate activities, which prevents them from being able to disseminate information to the rest of their communities.

> *(Luna, Solidaridad) "'It is not that they are not trained, they are more than trained to deliver trainings to their peers, but there is a tendency that other members of the communities who think they are not capable or trained enough to deliver these training. So we noticed that we need someone from Solidaridad or Olam to accompany them to deliver these trainings. It is very difficult because they still feel they are not able."'*

This highlights that the 'train the trainer' approach as conceptualised in the project, is not working effectively (as recognised by Solidaridad staff).

However, whilst the gender champions do not have the authority within the community to deliver training on their own, they can act as positive (or negative reinforcing) gender role models. In Nuevo Jaen for example, despite the male producer being the official gender champion, he exhibited equality with his partner, with them both having an equal presence in the evaluation workshops and appearing empowered to promote positive change in the community.

> *(Javier, gender champion) "The leaders support. Every time I have a chance, I share ideas, knowledge and techniques about the processes we should follow in the community. I do it. Not only because I am a leader but also because we like it."*

> *(Sofia, female, partner of Javier) "I take advantage of my small shop. Every time a visitor comes to my shop, I share ideas with them''.*

The community of this gender champion exhibited overall, the most-equal partnerships between spouses in terms of control over resources and decision-making. The correlation between motivated and gender-norm progressive, gender champions and positive community results seemed to be a more important factor than the 'time since' initial GALS workshops, for which no differentiation could be deciphered, suggesting that there are more intangible impacts of having motivated and gender equal couples as gender champion role models within the community.

In addition to positive gender role models at the gender champion level, the field staff delivering the GALS trainings are useful role models for women and are also key for tackling hegemonic gender norms surrounding leadership and authority, which are normally positions held by men.

> *(Catarina, Solidaridad) ''At the beginning it was hard for the producers to understand- "how is it possible that I am a lot older than this young woman trainer? How could she train me? A woman?" That is something that surprised me, and I lived that personally. One of the trainings I participated in there were only men there and they looked at me and said, "is she a trainer?".....us as women trainers demonstrated that yes it is possible for women to learn and implement any technique, because I was the model doing it, demonstrating live within the farm…Even though it was raining cats and dogs we were there in the end, and that is*

something that surprised the producers because she is a woman, it is raining heavily, it is very far away from the city and there she is waiting for us.''

Female technicians leading the technical trainings challenge gender norms that link technical ability and technical professions, with men. This is likely not only to change mindsets regarding women's ability to work on the farm, but also undertake roles of responsibility and change mindsets about what professions their children could undertake in the future. In this way, roles of leadership are shown to be influential in directly disrupting traditional mindsets about the capabilities of women outside of the home.

7.1.7 Gendered socio-cultural norms

Awareness of the need to change strict gender norms is present amongst some of the male producers, most notably the gender champions, highlighting the potential positive impact of repeat sessions and taking responsibility for disseminating GALS, on the changing mindsets of producers.

> *(Rocio, male, gender champion) "I had a very strong mindset about women being in the home and that I make the decisions and am the strong one. But little by little I accept. I am trying, I feel better and it has changed positively in our life''.*

Men's attitudes towards looking after their children appear to be changing as many of the male producers reported they more frequently look after the children (confirmed by their partners), suggesting that the binary gender roles which place women as the carers of children are being partially broken down.

> *(Alejandra, female) "He has made some changes since the training in terms of paying more attention to our daughter. I remember that in the past it was difficult because sometimes he left the responsibility of our daughter to me only. Now he is more careful and dedicates more time, even with her school homework for example".*

Evidence from the literature shows that positive role models of engaged fatherhood can support alternative pathways to successful masculinity in the household. Additionally, prior studies have shown that in cases where men were able to refocus conceptions of masculinity on active parenting, this resulted in less backlash on women's increased empowerment (Stern et al, 2018). This correlates with the interview findings that did not find any negative impacts of the GALS trainings on family dynamics.

However, intersectionality plays a key role in how entrenched gendered socio-cultural norms are, and how easy they are to change. In this case, it is shown to be particularly related to migration origin, migration-generation and age.

> *(Luna, Solidaridad) ''For example, in La Merced there hasn't been a complete change of generation, they are still immigrants. Now in Palmeras de Oromina there is a second generation that was born here, so there is a sense of belonging and being part of the jungle now, because they are the sons and daughters of immigrants. In La Merced they are direct immigrants, so there hasn't been a generational change yet. For example, the farmers there arrived in Alto Mayo when they were kids, so they had access to education etc., but the others came when they were old here.''*

The gendered socio-cultural norms of the highland regions, combined with age, and lack of literacy, combine to create more entrenched gender norms that are more difficult to transform in comparison to producers who are second generation immigrants from the same region, and thus typically younger, better educated and with more time to adapt to local socio-cultural norms.

7.1.8 Harmful masculinities

Despite changes in the behaviour of men towards more equal division of labour, traditional ideas of masculinity remain and continue to be reinforced in the daily interactions between men.

> *(Rocio, gender champion) "I actually helped my wife, even though I was criticised by my brothers. But now we communicate more. But I accept that I was sexist in the past"*

This is illustrative of men's 'policing' of each other to live up to 'macho' norms, within the family. However, this also occurs at the community level. For example, when discussing the gendered associations with the colours blue and pink, a Solidaridad facilitator suggested that they could make aprons for producers that would be pink. In response, one male participant stated he would wear it but would 'make curtains' for his kitchen door, so that no one from the community could see him. This highlights that despite willingness to undertake household roles traditionally labelled as for women, and even wear colours coded as feminine, he would not wish to be seen doing it by his peers.

This is a result of fear of being ridiculed by other men in the community for subverting expected masculine behaviours, pertinent in a case reported by another producer.

> *(Javier, gender champion) "I had one very surprising experience when I visited Jaen where some of the producers keep a bucket of water. Every time they see someone holding some food for the animals or some logs for the fire, if it was a man holding that they throw the water on him to criticise him and as a punishment. But I said 'come on if you come to my community, Nuevo Jaen, you will see that everybody can do that to help their wives and it is normal'. But they were very surprised about that."*

Whilst the recognition of these negative processes and speaking up against them is a positive indication that mindsets are changing in this case, more broadly these results highlight that men's 'social policing' of other men's masculinity may present significant barriers to mindset and attitudinal change on gender socio-cultural norms and roles (Brush and Miller, 2019).

In addition, these socio-cultural norms seem to vary according to age, as the younger producers exhibit more progressive norms, and region; with particular mention of the highlands where many of the producers migrated from.

> *(Hector, male) "In the highlands, for me it would have been impossible for me to go and milk the cows or even bring some wood for the fire, because immediately everyone would make jokes at me. But now I don't care about that. For me that is not important, what is important for me is my wellbeing and my family, that's it."*

This suggests that traditional gender roles and socio-cultural norms surrounding the 'household sphere' and women, are more pronounced in highland areas, and therefore, that the area in which a producer has come from, is likely to affect the socio-cultural norms that they have internalised. Producers commented that since moving to San Martin, this mindset has changed, suggestive that a reduction in negative 'policing' of masculinity is mainly a result of a change in socio-cultural norm environment and generational shifts, rather than the GALS workshops directly.

7.2 'Power to'

7.2.1 Time burden

As elaborated in the previous section, despite couples reporting helping each other more since the GALS workshops, as women contribute more significantly to productive work than men to reproductive, women spend more hours of the day working, contributing to a disparate time burden for women, relative to men. The GALS methodology attempts to tackle this problem by encouraging the producers to reflect on the different roles and responsibilities between producers. A few couples

highlighted that they identified a disparity in leisure time as a result of the GALS workshops, particularly in the afternoons and evenings (after work in the finca is complete) and were endeavoring to change this.

> (Jorge, male) "We work together in most of the activities, but we committed to taking more care of sharing the household chores especially in the afternoon. Because in the morning we cook together, I feed the animals whilst she is preparing the breakfast in the morning. In the morning there was no problem, but in the afternoon sometimes I would go and have some self-care instead of helping her, so that is my commitment to change that."

In this case, it is clear that analysing the unequal division of labour and time within the GALS workshops enabled producers to reflect on inequalities in labour and leisure time within their partnerships and has led to a man sacrificing his own leisure time for the benefit of his partner, highlighting that changes are not only being made when there are mutually equal benefits, or benefits to the man.

However, time burdens are more severe for single mothers, as they are responsible for chores in the finca as well as the household and children.

> (Camila, female) "I participated in the trainings of Solidaridad. But the thing is I am a single mum. So the activities that I have to do is double effort. Because I have to be here taking care of the child, the parents and my finca, so it is a double effort for me.''

In this case, the woman states that she is often late, or cannot attend the whole training because of the need to work on her coffee farm or look after her family. Therefore, future considerations of addressing women's time burdens should also consider single-mothers and explore ways to ensure their participation in technical trainings. In addition, despite improvements in divisions of time, the remaining time burden on women suggests that there is too much focus on involving women in productive work, and not enough attention being paid on the need for men to complete household tasks in tandem.

7.2.2 Access to resources

Women lack access to technical trainings within the Circular Coffee Project, which would enhance their technical knowledge, skills and social capital (Carnegie et al, 2020). This is reported to be due to a range of factors including childcare responsibilities, mobility constraints and socio-cultural norms which continue to view men as the 'primary farmer'. In addition, women's lack of access to resources relates to barriers to cooperative membership, elaborated on in the 'institutional factors' section.

Interestingly, the sub-section of participants that were single mothers in some ways possessed a greater access to resources as they were the ''head of household'' and ''head farmer'', and were thus cooperative members and controlled the income from coffee production.

> (Catarina, Solidaridad) ''The only exception is women single mothers. That is where everything goes in the benefit of her, but in most cases it is the men who control the income. The only exception would be the younger couples because they openly accept and implement everything that Solidaridad trains them about, the sharing of expenses and benefits, financially talking.''

Having said this, due to their heightened time burden, their ability to access resources are limited. The single mothers within the study reported that they are sometimes late or cannot attend workshops or technical trainings due to responsibilities in the farm or the house. In addition, one single-mother highlighted that she was not part of a cooperative because she worked alone on her farm, and thus did not have the time to commit to being a cooperative member. Thus, whilst being a

female-headed farm and household opens the door to accessing resources, in that their partner does not occupy that space, they cannot enact this power due to time constraints.

7.3 'Power within'

7.3.1 Critical consciousness and self-reflection

The GALS methodology actively encourages critical self-reflection of both men and women in the way in which gender inequalities affect the ways in which they are able to live their lives and achieve their life goals. Producers suggested that it was the GALS workshops that enabled them to realise the negative effects of inequalities on their family and the necessity to change.

> *(Rocio, gender champion) "I noticed that when completing the equity tree, I distinguished there are things that we usually do, me, my spouse, the kids, you know, the responsibilities. Because the activities are on an everyday basis, before, I did them without noticing. Another thing that I noticed was missing, was the level of communication between different members of the family. Me with my spouse, my spouse with me and me with the kids. That is something that I needed to improve"*

This critical consciousness of gender disparities was directly attributed to the Equity Tree workshop, which promoted critical evaluation of the families' current divide in gender roles and potential disadvantages to each member and the family as a whole.

> *(Lucelita, female) "I noticed that there was an imbalance in terms of the distribution of work and also the planning of the family, for example the house and working in the finca."*

In addition, several producers reflected that the process of increasing gender equality was not finished, and that there was still work to be done, highlighting a recognition of the process towards changing social norms, and a critical consciousness that the process is incomplete.

> *(Rocio, gender champion) "we are still in process, it is not 100% and we need to adapt. But we understand the necessity of helping our daughter, to pay more attention to her and be more aware of the necessity of education, and also to pay more attention to my wife"*.

However, the producers do not seem to reflect critically on the structural causes of gender inequality, and the discussions and reasons for improving equality were mainly surrounding the benefits of 'working together' for the efficiency and productivity of coffee production. As Cole et al (2020) and Hillenbrand et al (2022) argue, critical consciousness is vital for women's empowerment, as agency does not lead to social change and collective action to challenge oppressive structures unless women ''critically reflect on gender inequalities and its structural causes'' (O'Hara and Clement, 2018, 121). This suggests a lack of facilitation of deeper gender discussions and critical consciousness development in the GALS approach, linking to the discussion in the previous section that this needs to be further up the agenda if it is going to make a lasting impression.

7.3.2 Confidence and self-esteem

Several women reported significantly gaining confidence from participation in the workshops, which translated into the home and their relationships with spouses.

> *(Carmen, female) "We learned not only things related things to family but also myself, because I used to be very shy, but I learnt that it was okay for me to express myself"*

> *(Omar, male) "The personality of my wife has changed, and I am happy for her because she is much more expressive now"*

Amongst the participants that felt a change in confidence, it was reported that this was a result of the facilitation of the workshops by women leaders, and also the collaborative nature and presence of other women.

> (Carmen, female) "In the training with [Solidaridad Staff member] especially, she opened the opportunity for everybody. I saw that other women could express themselves, and be themselves, so I took the opportunity to make a change for the good. And also my husband reinforced the situation"

This suggests that the positive, inclusive environment created by the facilitators in the workshops, provided a space in which women felt they could express themselves freely. In addition, it highlights that prior internalised and self-limiting beliefs are being re-written because of the workshops. However, as this participant stresses, this is also a result of the support from her husband, highlighting the importance of getting men on board for this change.

7.3.3 Autonomy

As a result of (some) women being more included in the technical trainings and implementation of the circular cultivation practices on the farm, women were able to take responsibility and assume roles that were originally only for men, and complete them for themselves.

> (Catarina, Solidaridad) "I noticed in the past that when there were these certification processes, for example when an external supervisor came there were times in the past when women said sorry my husband is not home, come back when he is home because he is the one that knows everything. Now that has changed. I am convinced that if there is an accreditation process, the women that participated in the trainings would be able to explain or complete an interview from someone who wants to complete an accreditation supervision."

In addition, the producers exhibited greater self-efficacy in the evaluation workshops and were reportedly less 'timid' and reticent to participate than in the initial GALS workshops.

7.3.4 Aspirations

Aspirations do not fall into the typical category of gender equality indicators, however, visions of the future can change as a result of changing social relations, opportunity structures and resources and personal self-confidence (McDougall et al, 2021). The GALS workshops directly encourage this through the use of the 'Vision Journey', which promotes participants to think about the changes they want to make for the future.

> (Luis, male) "If the price of coffee remains stable, we will probably buy a motorbike for the community, or improve the house, or finally, try to buy another finca".

Some producers highlighted that with good health, and lack of pests and disease they would be able to acquire more material assets, such as a motorbike or better building material for their homes. The aspirations were noticeably more ambitious amongst the gender champions who in some cases had ambitions to start an association of producers and even export coffee.

> (Sofiia, female, partner of gender champion) "It has been a great experience for me. I feel extremely proud because my life has changed dramatically. Not only for me and my community but also for the future and the future of our children. And we can even dream now, if we can be good producers we could even be exporters, you know, why not.''

> (Rocio, male, gender champion) "One of my dreams is to accomplish the contraction of my tourist attraction here, including a country house, and also having the ability of my kids to

study in a good school. Also to have more coffee production, right now it is 8-10 quintals. In 5 years I want to sell 100 quintals.''

This highlights a potential multiplier effect of the position of gender champion leader (or being partner to one) on aspirations, as this involves getting first invitations to trainings, implementing a 'model finca' and thus getting improved results from coffee production, improving a sense of capability and confidence, which is linked with more ambitious aspirations for the future.

7.4 'Power with'

7.4.1 Planning for the Future

Beyond aspirations, the Vision Journey activity of the GALS workshops enabled producers to develop 'Power with' at the household level, by concretely planning the projection of their family future, including implementation on the finca, investments, and their children's education, and the steps needed to get there together.

The majority of producers highlighted that this planning process facilitated not only co-decision making between spouses, but also progress towards other development goals such as implementation of sustainable management practices on their farm.

> *(Ricardo, male) "We immediately found the lack of coordination between us, especially in the decision making. After the training we believe that now we coordinate more and that helps us in the development of the family"*

> *(Florina, female)"We decided to get into an agreement about every activity we do in our daily lives. In the past we did what i thought was ok, what he thought was ok, but we realised that no, that is not a good way to develop. So we decided to coordinate and communicate to take care of the work. Sometimes he goes to the finca and I look after the children and vice versa. That was the first commitment that we made and it is working."*

> *(Florin, female) "Since the beginning as a couple we coordinated, but after the trainings of equity and life planning we got organised about decision making processes. It serves us a lot."*

It can be seen that through the mutual goal setting and better coordination planned in the Vision Journey and Equity tree activities, combined with the practical process of implementing those visions in their daily lives, encourages greater communcation and decision making together.

In particular, producers highlighted greater prioritisation of their children's education and reducing the transfer of negative gender norms into the next generation.

> *(Florina, female) "If you are united you just develop. We are happy because we have a chance to change the generation. We are going to teach the children to be different, to think different and to plan differently...In the past my parents thought there was no need for girls to go to school, only boys, and if boys went to school it would be only primary not secondary. I am a living example that I didn't finish my primary, and for example now I need mathematics for trading. I know how to read, but mathematics is the problem for me. My children are going to be different. I am convinced that I need to send my children to school because in life they will need it."*

> *(Mateo, male) "The most important thing I learned from the trainings is the importance of education for my kids. I learned that I have to plan the future of my kids and the future of my kids' education and that is possible through coffee production. With coffee we will continue with the development process."*

This points to potential inter-generational effects of gender transformative approaches and is a promising sign for future gender equality progress, as higher educational attainment is linked to improvements in gender equality and women's empowerment.

7.4.2 Participation of women in the community

Women have gained collective confidence and 'voice' from the mutual setting of the workshops, as it provides a space outside of the home and finca where women feel comfortable to voice their opinions in the same space as men, highlighting the compounded positive effect of providing spaces for women to convene together.

> (Carmen, female) "It was part of my change. Most women did this because they felt confident at the training. It was the training and the other women's reactions that created change".

In addition, observations from Solidaridad staff highlighted that since the first GALS workshops there was a considerable change in the voluntary and enthusiastic participation of women. In the initial workshops women were very shy, stating that they 'couldn't draw', whereas in the evaluation workshops women protested if they felt the men were exaggerating which work tasks they completed.

> (Luna, Solidaridad) ''That big change could be seen yesterday (in Palmeras de Oromina) when they were discussing what to do about the activity, in the past women would not express their opinion. Now they even claim to be right''

> (Catarina, Solidaridad) ''At the beginning when the women started doing the trainings they were totally shy, they gave excuses like I'm too shy or I can't draw, but now they are doing the activities all together.''

This is suggestive that greater negotiation between men and women is being catalysed by the workshops, in part due to the added confidence and social capital that women gain from them. Thus, the workshops provide a space where women can collectively use their power with others and assert their voices, in areas that were previously off-limits to women. As such, women are gradually redefining highly masculinised spaces, and challenging ideas of male community leadership and dominance.

This change, however, was not observed so significantly, in the community in which the producers are first-generation immigrants from the Piura highland region of Peru, (see appendix A) where the physical separation of men and women on different sides of the workshop room was clear, and the timidity of the female producers more pronounced. This segregation behavior (witnessed to be more stark in the initial GALS workshops), suggests pervasiveness of gendered segregation, and highlights that migration origin and migration-generation status (i.e. first or second generation), and age, may affect the types of gender norms, and indeed how entrenched they are at the community level, impacting progress towards undoing these gender norms.

7.4.3 Community action

Participant response suggested however, that the impact of GALS on the wider community was limited. Within the groups of producers that participate in workshops and trainings, there were reports of mindset and behavioural changes at the community level, however, this was primarily related to attendance at trainings, and internal motivation and willingness to change.

> (Sofia, female) "We are convinced we have witnessed big changes in the groups, not only young people like us but also in the older ones. It is the combination of the trainings, the personality and the support of the trainers"

> *(Javier, male, gender champion) "We are a close group of 12 community members. In that specific group we have noticed a lot of change, but in the rest of the community [gender inequality] still exists and it is notorious."*

Whilst groups of motivated farmers who participate regularly in extension service trainings and the GALS workshops reported to have implemented their commitments, this is not the case for other, less motivated or participating community members.

> *(Hector,male) "I notice that not all members of the community show changes, many of them continue with bad habits of drinking and spending money on other things. It all depends on our homes. In addition, because we live separated and quite apart, the houses are not close together, we do not necessarily know whether the rest of the community is completing what they committed to in the trainings."*

In general, the producers suggested that changing gender relations were the responsibility of each household and did not see it as a community-action issue. Therefore, interest to take collective action to transform norms and structures at the community level was limited. However, it may be too soon to tell whether GALS can trigger collective action and change at the community level and lead to better representation in leadership for example. Future implementation of the third module of the GALS methodology, the 'Social Empowerment Map', may trigger wider change at the community level.

7.5 Looking beyond the project level: institutional factors

Analysis of the broader project and societal context has revealed that gender discrimination goes beyond the household and community level, at which the GALS methodology is implemented, and is present at different levels of the supply chain having an impact on overall gender transformative change.

As discussed in SQ1, a key institutional barrier to women's 'power to', is in the rules of cooperative membership, where the cooperative is the main institution for access to resources and decision-making. However, this can be seen to have negative feedback effects, as due to their lack of membership at the cooperative level, women miss political representation and key decision making within the cooperative, despite attending the meetings.

> *(Anna, Global coffee expert, Solidaridad) "Where the cooperative is going to decide something, quite often the women go…. But when you get to vote, you cannot vote because you are not a member, the member is the man."*

This represents a concerning representation issue at the cooperative level, impacting women's ability to get their voices, experiences and needs heard.

In very few cases, women obtain the opportunity to become members of cooperatives, and do make it onto the governance board. However, these appear to be in more 'token' roles in order to fulfill quotas instructed by international organisations to promote the representation and inclusion of women. On the other hand, there are women's cooperatives which are 'women only' thus, ensuring their membership and access to resources and representation. However, as a global coffee expert posits this is just, *''creating a new system to the systemic problem'',* and given the lack of women-only cooperatives, this benefits only a very small number of women producers.

An exception to this is female-headed, single-parent households, whereby the woman is the primary farmer, and thus the cooperative member. For example, a coffee quality grader in Moyobamba highlighted that it was only because she was a single mother, that meant she was the cooperative

member, and thus gained access to a management role in her cooperative, which in turn gave her access to the opportunity to train as a coffee quality grader.

> *(Marta, Coffee Quality Grader) "The thing Is that I have got rights to be part of this company, even of the board of directors because I was the associate, not my husband. So that is the beginning of everything…So this is a unique case and I took advantage of it."*

The issue of cooperative membership therefore represents a significant institutional barrier and 'glass ceiling' for women in terms of professional development in the coffee industry and at higher levels of the supply chain (Coles and Mitchell, 2011).

The significance of this goes further and impacts the selection of community project leaders in projects such as the Circular Coffee Project, because male farmers are better 'known' by coffee buyer companies (such as OFI) and have predominantly male farmers on their contact 'lists'. As mentioned earlier, this is a result of several factors including lack of cooperative membership, lack of leadership positions within the community, social norms which view the man as the 'head farmer' and lack of (sizeable) land ownership, and thus make men more visible to coffee buyer organisations.

Additionally, it is coffee buyer organisations over and above development organisations such as Solidaridad that typically choose these leaders as they have better and more direct contact with smallholder communities, due to correspondence through buying, selling and implementing other extension services in the past. Thus, when a gender approach is implemented, the 'gender champions' become synonymous with the current project community leaders ('model farmers'), which tend to be male. This is clear in the number of women chosen by OFI as the 'model farmers'/ 'gender champions' in the Circular Coffee project, which is 3 out of 65 (C.Roman, personal communication, 19/04/2023).

Whilst an OFI representative suggests that the selection of leaders is voluntary, another stakeholder points to the gender bias in the selection, as selection or invitation of leaders is also down to the size of their land and expected production.

> *(Edgar, technician, OFI) "We selected our leaders and invited them to be part of the trainings. So they have been trained in the technical trainings and GALS methodology….it is mostly volunteer selection in terms of, we visit them once, twice or three times and in those times we asked if someone could voluntarily be part of this team of leaders. Once they opt to be leaders they start implementing the model fincas and the trainings.''*

> *(Catarina, Solidaridad) ''It is actually the counterpart of OFI who starts the process of selecting the leaders, taking into consideration the amount of land and the amount of final production this leader would have at the end of the process. The more land, the more products I buy from you, makes you my leader. So that is the part that Solidaridad says, unluckily we do not participate in this selection…Also, what Olam consider is how good the quality will be at the end. The higher the location of the finca, the most expected quality results they will have. ''*

This illuminates that leaders are being selected on their economic return potential and is suggestive that OFI view the project as an investment in farmers, wanting to put their investment in the most profitable producers. Given that it is typically men with larger areas of land, are in possession of the land ownership document, and are viewed as the 'primary farmer' within the family, they are selected as the 'model farmers'.

Preference for men in 'model farmer' selection also correlates to leadership within the community (which as previously discussed are roles almost always undertaken by men), as in some cases the

community leaders were also the model farmers. This is likely a result of more generalized acceptance of male authority.

> *(Ana, coffee expert, Solidaridad) "Unfortunately you do have to select a few men who really believe in that methodology and are champions of that methodology.''*

> *(Catarina, technician, Solidaridad) ''I remember that when we started trainings 50 farmers, we found only 2 women leaders out of 50, so the percentage was very low. This hasn't changed much it is more men than women at trainings. That is notorious.''*

This selection has wider consequences as the leaders provide a critical community contact point for Solidaridad and OFI and is the mechanism by which other community members are invited to technical training. As was noted in observation of the technical trainings, if only men are represented at the 'model farmer'/ 'gender champion' level in a community, typically only male farmers are invited to the technical trainings. This was particularly clear in a technical training where the only two women present were the partner and daughter of the model farmer. This suggests that the gendered community social networks of the gender champion/model farmer (typically male), influences the predominance of men in technical trainings, pointing to the trickle down and feedback effects of structural bias and norms at the institutional to community level.

> *(Mateo, male) "The invitation said come to the training and we decided that I would go. If the invitation had said we should both go, I am sure that we would both attend".*

In addition, it was found that coffee traders such as OFI give preferential treatment to farmers they know to use good, organic, high-quality practices, i.e. the model farmers (which are typically men). When producers sell at OFI, the coffee assessors do a quick physical analysis, and if the coffee is deemed high-quality enough, it goes through a more elaborate assessment to determine the exact quality, which typically results in a higher price being offered. In the cases where Olam 'know' the farmer to be ''well organised'', they bypass the 'physical analysis' step.

> *(Edgar, technician, OFI) ''We also know which producer is bringing which kind of coffee because we are in the fields before. So we are expecting for [named producer], yeh, we visited him and have seen he has implemented all the practices, he could pass to the second stage. It happens in only 30 minutes, they see it and smell it and decide ok this is good, this is fair, and they receive a cheque and go to the bank for security reasons. If the producer brings it in the morning and they deserve a complete analysis that takes the whole day. So late afternoon they receive their cheques.''*

Therefore, not only are male producers being given leadership positions in the community and project they are also more likely to obtain a higher price of coffee when selling.

This creates a vicious cycle as if women are not given opportunities to be 'model farmers/ gender champions' they do not receive the training and resources they need to level up their quantity and quality of coffee production. In turn, they are not 'known' by OFI (or other coffee buyer companies), and thus cannot receive higher prices for their coffee. This finding mirrors the cooperative structural disadvantage issue, which when combined could doubly disadvantage women, excluding them from credit, education, training, production inputs, technology and in this case, higher prices. If women are disadvantaged at the outset, it is all the more difficult for them to change their relative disadvantage, as they do not have access to resources (Nippierd, 2012).

In addition, the reported positive technical implementation, productivity and quality results seen from the farms of the model farmers in San Martin highlights that being given the status or opportunity of

becoming a ''model farmer'' can have a significant positive impact on that producer's livelihood. Therefore, there is a risk that if women are excluded from these opportunities that the gender gap in leadership, income and resilience will increase, as men are being given advantages over women.

7.6 Broader livelihood factors and Gender Transformative Change

Given that gender transformative change aims to be systemic and multi-level and aims to embrace the perspective that ''human flourishing is the goal of development'', the effects of the GALS approach within the context of the broader Circular Coffee Project, and its reported change to the other dimensions of producer's livelihoods is analysed. This is to understand the potential multiplier effects, risks or limitations of the approach, and whether other livelihood factors may be improving or limiting gender transformative change (Espinosa, 2013).

7.6.1 Climate Change Adaptation

The participants highlighted that the Vision Journeys and understanding the importance of sharing and dividing the new tasks, enabled them to implement climate adaptive processes learnt from project technical trainings more easily and effectively.

> *(Florina) "The circular economy has evolved and improved the finca, but last year the roja plague affected us terribly, we only harvested 2 quintals which represented 2000 soles for the whole year. Now we have a lot of expectations because our coffee plants are better now, they look nice, we are expecting more production. We changed the roles between us as we mentioned before."*

However, women's 'power to' adapt, is severely limited by the exclusion of women from the technical trainings (as observed through participant observation) preventing women's access to resources and improved climate resilience, exhibiting a risk to gender transformative change in other livelihood areas.

> *(Catarina, Solidaridad) "I remember one special case in which one man participated, and was known by Solidaridad International, participated in different projects, but then he passed away. His wife didn't know anything about it, not only processes, decision-making, so in the end they almost lost everything. Literally. They lost their land, everything. If it is only the men, what will happen in the future."*

This comment highlights that the vulnerability of not only women, but the entire family unit, to environmental change is heightened, if women have not been trained in climate adaptive and disease resistant practices. This in turn increases the likelihood of economic and food insecurity, which will have knock on negative effects on other aspects of their lives, including education for the children, child labour, and food insecurity.

The remaining participation gaps of women in technical trainings within the Circular Coffee Project, represents a broader issue of climate change adaptation, that is, a re-masculinisation of new opportunities (Resurrección et al 2019). Given the tendency for ´model farmers´ to be male, and the predominant invitation of men to trainings, women are often excluded. This has the potential to create a negative feedback loop as technical trainings become scripted as 'masculine' spaces. As a result, women miss out on opportunities to gain knowledge, to better their income and environmental resilience and additionally, on opportunities to 're-write' gender norms surrounding technical management of the finca. This reduces the potential for gender transformative change and gender transformative climate adaptation, and risks gender equality setbacks.

7.6.2 Coffee Rust Plague

The Roya plague was frequently described as the 'worst thing' that could happen to producers in the future and was discussed as the main potential limitation to producers implementing their Vision

Journeys. In this way, it presents a barrier to the livelihood resilience and achievements of producers, putting economic stress on the family, which as a result, impacts gender transformative change.

> *(Helena) "The worst thing that could ever happen to us is the Roya plague again. We have this area of coffee trees that we planted some years ago, but then I realized that it has Roya now, so I am trying to control it''*

> *(Eduardo) "That is the worst thing that could happen, the Roya. When we have implemented all the things and then it is about to be harvest, and all the effort is ruined''*

Whilst implementing composing, shading trees, and soil protection processes was stated to improve the health of the coffee trees and production of the crop, the Roya is still present.

> *(Mayra) "We are still fighting the Roja, it is less now, we are processing the soil better now and using better processes to take care of the plants. For sure the trainings have had an impact as now we know what to do".*

However, producers further highlight that they could more easily control the Roya if they had the financial capacity to do so. Less investible income from coffee means that producers cannot invest in better fertilisers, crop management techniques and new varieties of coffee.

Therefore, we can see that the intersections between low income and economic insecurity with environmental risks, combine to create an exacerbated impact on the capacity of producers to execute their 'Vision Journeys', and thus execute their livelihood goals and aspirations together, limiting their 'Power with' dimension. Furthermore, given that in times of shock, women are likely to experience a heightened time and labour burden, this impacts their 'Power to' access resources, and further training, which may allow them to make their farms more resilient for the future, creating a negative feedback loop of structural instability. This is likely to be more of an issue for female-headed households, where women already experience a time burden.

7.6.3 Economic barriers

A primary barrier (alongside Coffee Rust) to producers achieving their Vision Journeys and respective definitions of gender transformative change, was put down to uncertainty in income as elaborated in SQ1. Despite the benefits of technical trainings as part of the broader Circular Coffee Project to crop productivity and quality, and some environmental resilience, there was a lack of consensus amongst producers about whether the implementation of circular and climate resilient practices had resulted in a higher income.

> *(Florina) "Last year we had 3 quintals and one quintal was 1000 soles, and now it is 500 soles... We cannot be assured whether we will have benefits from this seasons' production because we do not exactly know what the price of the coffee would be"*

This is problematic for producer's Vision Journey aspirations as they lack investable income for farm assets such as solar dryers (which improve quality) and farm inputs, such as pesticides, Roya resistant varieties, and shading trees, which could improve their environmental resilience, productivity and in turn economic stability.

This lack of income also may impact the 'power over' and 'power with' benefits that can be seen from the Vision Journeys in terms of increased communication, decision making, and planning together, as if producers do not have income to make decisions on, there is less likelihood of family livelihood planning, and thus respective progressions on other linked power dimensions of gender transformative change, such as social norms.

> *(Luis) "We both together coordinate to make decisions to make use of our incomes. But last year it was not possible because of the Roja, so instead of making money, we were at a loss because we had to buy extra fertilisers and to recover what we have now."*

This highlights that whilst progress might be made in terms of more equal decision making on income expenditure, if there is no income, the relative power gains women have made in the house, may be lost, because the overall financial precariousness of the family is a more urgent problem.

As we can see, the remaining structural barriers to the economic development and security of coffee producers will impact the prosperity of the whole family, but particularly women, and risks setbacks in progress towards gender transformative change. This highlights that the broader systemic, supply-chain level inequalities, are an overriding structural barrier to gender transformative and broader livelihood and wellbeing outcomes. Thus, there is a need to ensure more economic security for producers, to support gender transformative change.

8. Discussion

Gender is inherently relational; thus, the gender transformative nature of an intervention cannot be fully assessed without analyzing the results in relation to the livelihoods of the coffee producers themselves. This discussion therefore will inter-analyse the findings from the three sub-questions, and in doing so, answer the overall research question; *What is the impact of the Gender Action Learning System (GALS) approach to gender transformative change in smallholder coffee production communities in San Martin?* It will first discuss the direct changes as a result of the GALS approach and then undertake a critical discussion of the gender transformative results in the broader context of coffee producer livelihoods.

The GALS methodology is highly effective at changing gendered divisions of labour, and resultingly challenging traditional gender roles separating housework and farm work. The involvement of both men and women in analysing unequal division of roles within the household, using the Equity Tree, highlighted inequalities, contributing to greater value being placed on women's labour (both productive and reproductive), and has contributed to a greater sharing of responsibilities, particularly men looking after the children. This supports research which argues that addressing gender relations through an approach that actively involves men and women, whilst rethinking the 'coding' of male and female work tasks, is effective for critical consciousness raising, and changing gender roles (Farnworth and Colverson, 2015).

However, despite more sharing of productive and reproductive labour, women's increase in labour in coffee production is not met by the same commitment from men to reproductive labour. As such, women experience a greater time burden. This time burden combined with remaining socio-cultural norms viewing childcare and housework as primarily a women's role, presents a barrier to women's 'power to' through engagement in activities outside the household, at the community level, and access to technical trainings.

The main barrier to gendered socio-cultural norms surrounding gender roles, is the social stigma for men when doing "women's work'', and negative male social policing of 'macho' behavior, which proves difficult to shift, although less true for younger, second-generation migrant men. This was particularly evident in the way that men were happier to do reproductive roles, if they were not 'seen' by others in the community. Thus, we can see that behaviours are easier to change than mindsets surrounding traditional gender roles, and they remain reinforced by male-male social relationships, highlighting the importance of tackling this in future agricultural GTA's. It is argued therefore, that whilst male involvement, which is widely encouraged by GTA literature, is positive, without tackling negative harmful masculinities, and the potentially negative social stigma for men

that subvert them, the support of men for gender transformative change will not be easily gained, and gendered socio-cultural norms more difficult to shift, especially at the community level.

The GALS approach presents significant transformative results on ''power to'' at the intra-household level, as the majority of participants reported pooling resources with their spouses, were transparent about, and shared income from productive activities and shared decision-making (Singh et al, 2022). In addition, the implementation of the GALS workshops and women's participation in them, directly improved participants' ''power within'', and women's sense of self-confidence and self-efficacy, autonomy and aspirations, highlighting the importance of female workshop facilitators, and creating spaces in which women can make their voice heard. Additionally, as a result of increased communication and planning many producers reported more ambitious ''power with'' plans for family/household projects, such as building a house, buying land, expanding a business or investing in their children's education, revealing the cross-benefits between different forms of power.

The results, however, highlight the limitation of the GALS methodology for certain groups, and that the transformative potential of GALS is dependent upon intersectionality and context. For example, whilst female-headed households exhibit more ''power to'', as they are able to make their own decisions, control their own finances and are often the cooperative member, giving them access to financial services and resources, they experience a heightened time burden and thus struggle to make use of their greater access to resources. Furthermore, in times of crisis or environmental or economic shock, they are more vulnerable as they rely more heavily on income from coffee and would struggle to access other forms of employment.

Higher age and illiteracy levels correlated with less change in power dynamics and socio-cultural norms at the intra-household level on all power dimensions. Illiteracy particularly restricted women's access to resources such as land, and skills development opportunities, such as technical training. In addition, the migration origin and migration-generation of the communities, impacts gender transformative outcomes due to the pervasiveness of traditional gender norms.

Furthermore, time-since the initial GALS trainings was not a significant factor in the level of gender transformative change, suggesting that factors such as community characteristics, for example, migration origin, average age, and leadership, particularly by the gender champions could be contributing significantly to initial gender social norms, and level of socio-cultural norm change.

8.1 Critical discussion

8.1.1 Institutional factors

Despite some positive and transformative changes at the household level, institutional barriers are contributing significantly to restricting gender transformative change, particularly women's ''power to'' achieve their livelihood visions, and "power with" through collective networks, which has knock-on effects on other power dimensions, leading to a self-fulfilling cycle of women's exclusion from access to resources and empowerment. Indeed, invisible socio-cultural norms and bias (of implementing development practitioners) is combined with visible institutional barriers, to further entrench current gendered power structures (Hillenbrand et al, 2015). For example, the choosing of male leaders because of perception that they are the primary farmers, is combined with structural factors such as male ownership of land, hegemony at the cooperative level, and community leadership positions. Therefore, despite positive changes at the household level as discussed above, broader institutional structures undermine these changes, and serve to compound gendered structural inequities, feeding into pervasive gender norms, and leading to the maintenance of negative feedback loops of exclusion and discrimination. Thus, we can see that without consideration of gendered power relations at all levels of the project, including the institutional and implementation-organisation level, implementing a gender transformative approach will tend to follow current lines of structural discrimination.

The institutional barrier of women's exclusion from technical trainings and cooperative membership, further has significance for environmental resilience in coffee production, as processes of adaptation interact with existing gender inequalities in complex ways. Traditionally, climate adaptation processes are de-politicised as subjects of climate change adaptation are conceptualised as rational choice agents that benefit optimizing (implicitly male) individuals, ignoring power dynamics (Klepp and Chavez-Rodriguez, 2018). Without consideration of gendered power relations within the implementation of climate adaptation trainings specifically, (a masculinised space) women are excluded from gaining the skills and knowledge to adapt, which can result in maladaptation and negatives for the whole families' resilience (Rainard, Smith and Pachauri et al, 2023). Therefore, to support gender transformative change, and ensure that progress does not slide backwards, climate adaptation training must also be gender transformative.

8.1.2 Neoliberal project design and partnerships

Contradictions and tensions within the competing aims and partner goals for the project, present limitations to achieving gender transformative change (Jerneck et al, 2018). The economic focus of corporate partners to achieve more efficient and better quantity production through greater involvement of women, is contributing to women's increased time burden, reflective of a broader global supply chain structure, which relies on women's unpaid labour to internalize the external costs of capitalist production (Lyon et al, 2017, Dunaway, 2014).

This further links to criticism of development's bureaucratic power of dominance, and recent criticism of participatory, bottom up and community driven methodologies such as GALS, which are argued to provide, ''effective instruments with which to advance external interests'' all while "concealing the agency of outsiders… behind the beguiling rhetoric of 'people's control" (Mosse, 2004:7). In this sense participatory methodologies are being coopted as ''disciplinary technologies deployed to produce 'proper' beneficiaries'' (Mosse, 2004:7). The clear economic motivation of the corporate project partners manifests in implementation of GALS as a focus on *including* women in the productive sphere, rather than critical consciousness raising and key power-shifting changing outcomes. As women are not equally relieved of their reproductive burdens, and further, structural discriminatory power relations are not addressed, the project outcomes can be seen to be affected by the productivity goals of partners within the Circular Coffee Project, limiting the transformation of gender norms and power dynamics.

In addition, the focus on the individual and household level, but not the communal to societal level change highlights the neoliberal intentions of the project. In part due to structural barriers, implementing organisations are not encouraging the self-organisation of producers which may help to consolidate resilience of their livelihoods. Having said this, the capacity of organisations to change this with their resources and the broader context of structural inequality of the global coffee value chain is limited.

Thus, this research argues that a gender transformative methodology cannot have fully gender transformative outcomes, if applied within a project that where gender transformative change is not prioritized and is used somewhat instrumentally towards other (economic) project priorities. Therefore, gender transformative thinking (rather than instrumental aims) is needed across the project spectrum, at the project design stage, implementation, and with all project partners, if gender transformative outcomes are to be achieved.

8.1.3 Livelihood resilience

The remaining lack of resilience of producers in the face of external environmental and economic shocks is a significant barrier to gender transformative change and risks negative progress.

Looking at the impact of GALS within the wider livelihood and climate adaptive context of coffee producers, highlights that producers are not receiving a higher income from implementing improved circular and resilience practices. This is having negative effects, not only on producer's ability to achieve their livelihood goals, but also for climate and coffee rust resilience, which in turn threatens positive progress towards gender transformative change. The research highlights that gender equality, economic security and environmental resilience are inherently linked in the agricultural context of smallholder coffee production in San Martin, highlighting the importance of considering other livelihood barriers to gender transformative change. It is crucial therefore, that gender transformative strategies are integrated with livelihood resilience, to ensure no one is left behind in adaptation processes, and GTC does not slip backwards (Resurrección et al, 2019).

This research argues therefore, that implementing the GALS approach at the household and community level alone, ignoring institutional power dynamics, and separate from other livelihood dimensions, is not systemic enough to achieve gender transformative change for smallholder coffee producers in San Martin. There needs to be greater awareness of the interconnecting nature of structural inequities of power and discrimination that perpetuate inequalities, as well as institutional and external barriers to livelihood resilience. Thus, this research points unequivocally towards the need for more critical and systemic gender transformative assessments, approaches, and evaluations, and that perhaps rather than being looked at as singular approaches, they should be reframed as 'Systemic Gender Transformative Approaches'.

8.2 Theoretical implications

By taking a case study of a GTA approach being implemented in practice, the research links gender agricultural research and theory with policy and practice and offers implications for both.

The research contributes to theory on gender transformative change by highlighting the importance of broader (livelihood) contextual conditions of gender transformative change. It reveals the interconnectedness between gender equality, environmental and economic resilience for smallholders in global value chains and argues that understanding and tackling intersectional environmental and economic livelihood resilience issues are necessary for understanding how power dimensions impact other areas of producers' lives.

In turn, the research has highlighted interlinking and multiplier effects between the different forms of power in changing environmental and economic contexts, highlighting that systems thinking could be an appropriate tool for measuring how change happens over time. This adds to literature calling for more multi-disciplinary approaches to GTAs (McDougall et al, 2021), and calls for greater integration and inter-disciplinary theory development between the fields of gender transformative change, livelihoods and resilience for smallholder farmers in agricultural value chains. To conceptualise and operationalize this, the power framework adapted from Rowland (1997), could be adapted to fully integrate environmental and economic factors, to better understand how gendered 'power over', 'power to', 'power within' and 'power with' intersect with environmental and economic dynamics.

The research further contributes to decolonial development literature critiquing gender approaches that disguise broader economic goals for market gain. Whilst the implementation of the GALS method and broader project in question was reported to have a direct benefit in the lives of producers, the remaining economic insecurity calls into question how well GTA approaches 'work' for producers in terms of their overall livelihood aspirations. This points to the need for more critical research on gender transformative approaches (within market-based actor-contexts), and the need for further feminist, and decolonial research that hears from smallholders' themselves. Given that decolonial and gender transformative methodologies both seek to address power dynamics, gender transformative methodologies could provide a useful entry point for global value chain actors to

take a deep dive into the diverse structural inequalities that result from them (MacArthur et al, 2022).

The findings thus reinforce recent feminist theory arguing for the need for more reflexivity and critical consciousness, both at the organisational level, but also at the personal project-actor, level to unpack systems of power and promote greater social transformational change (Allen, 2023).

8.3 Policy implications

8.3.1 Context specific

Within the project context, and GALS method specifically, a number of changes could be made to increase gender transformative potential and consider producers broader livelihoods.

Future implementation of the GALS approach should take care not to assign greater time burdens to women by focusing on reducing negative masculine stereotypes, discussing the negative impacts of harmful masculinities, and focusing on positive gender norms (Dworkin and Barker, 2019). However, this can be a long-term process, so in the short term, time burdens may be alleviated by encouraging men's involvement with their children (presented as an already emerging change, and positive entry point for men's involvement in the home). Furthermore, attention should be paid to intersectional experiences of GTAs, particularly female-headed households, who could be greater supported by cooperative membership or community networks, and older women, who are burdened by more entrenched gender norms.

Whilst the GALS method has improved awareness of gendered inequalities, producers primarily discussed the benefits of 'working together' for efficiency, suggesting a lack of more critical analysis of gender inequalities. Other tools that could promote deeper critical reflection on gender include drawing an empowered woman, discussions on women's rights and resource maps of livelihood resources in the community, which have been shown to shape empowerment visions, ambition and self-confidence to make changes (Cole et al, 2020).

Given that the gender champions play such a key role in the invitation of producers to trainings, who then go on to hold positions as broader community-level role models for both sustainable adaptation and gender equality, these leadership roles should be occupied by both men and women, to provide examples of equal relationships and has the potential to ensure equal invitation of men and women in technical trainings.

Furthermore, structural factors such as cooperative membership and land ownership should be tackled. The New Forest Law initiative in Peru, has the potential to secure the land rights of producers and enable them to access more resources and finance. It should be ensured that male and female partners are able and encouraged to obtain equal land titles in this initiative, which in turn may promote more cooperative membership of women. Cooperative level change is needed in terms of the one member per farm rule, and waiving an extra-membership fee for women, to ensure their access and representation.

Given the structural inequality and insecurity of the macroeconomy of the global coffee supply chain, further economic protection may be needed such as insurance or living incomes for coffee producers (Andersen et al, 2022). Furthermore, promoting more "power with" strategies, though self-organisation amongst producers to set up their own cooperatives can ensure access to fairer prices for sufficient livelihood security and would present a more solid foundation on which to build gender transformative change.

As the findings highlighted the importance of feedbacks within gender transformative processes, the following diagram presents potential levers of change for gender transformation within agricultural supply chain contexts.
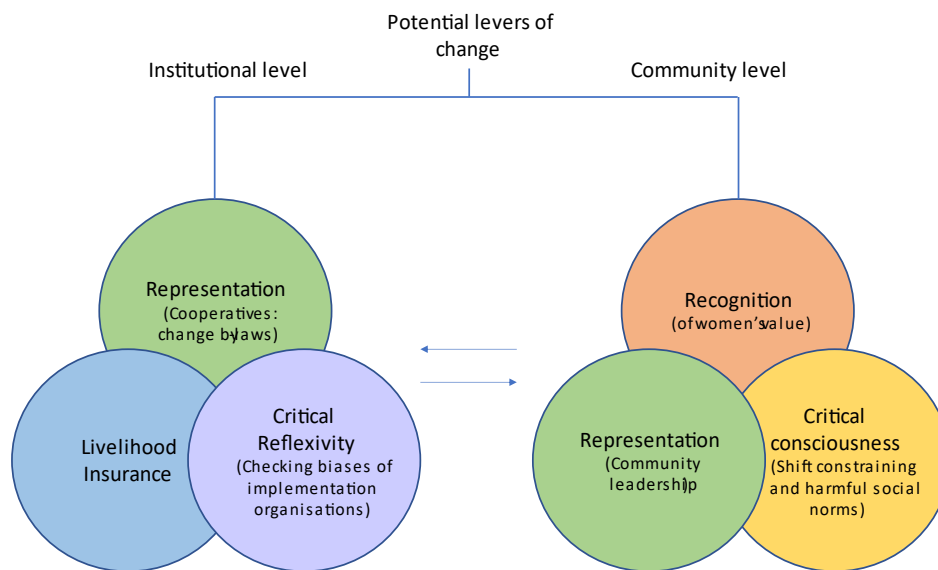
Figure 13. Diagram to show potential levers of change for gender transformative change, applicable to project context and wider agricultural value chains. Source: Author's own

8.3.2 Broader GTA recommendations

This research highlights that comprehensive and systemic action is needed for gender transformative change.

Conducting a rigorous, multi-scale and participatory gender analysis that investigates context specific and intersectional constraints to gender equality is key to ensuring the success of GTA approaches. Understanding the local context, particularly current barriers to gender equality, different intersectional identities of the producers involved, and livelihood resilience is vital to effective implementation. These can be identified by understanding the gendered lived realities of both men and women through participatory analysis. In addition, attention should be paid to gender inequities at the institutional level, to expose broader inequalities and barriers to gender transformational change within the supply chain.

In particular, there is a need for more critical reflexivity on the part of implementing organisations (Lawless et al, 2022), particularly on whether gender equality is being pursued instrumentally or to achieve economic goals, and how GTC might be being diluted or reoriented. In addition, reflexivity is needed on gendered bias or practices of all project staff and partners, to ensure gender norms are not reinforced. To implement this in practice, organisations could use a recently developed critical consciousness question framework developed by Allen (2023).

Understanding the presence of environmental challenges and how they may be linked to negative impacts for gender transformative change is necessary to prevent steps backwards in gender equality goals. In particular, paying attention to intersectional environmental vulnerabilities will be key to ensure no one is 'left behind'. Further to this, to ensure equitable and transformative adaptation, the research recommends that GTA strategies could be better integrated with technical implementation activities in agricultural contexts, as a system approach, aiming to increase the environmental resilience of producers. In this way, for example, climate interventions should contribute to gender-norm change, (rather than potentially cause regressive progress), and lead to transformative adaptation, creating co-benefits and positive reinforcing feedbacks.

To ensure maximum effectiveness of gender transformative approaches therefore, there is a need for mutually reinforcing feedback loops of change, at every relevant level of the intervention, linking different elements for co-benefits and positive multiplier effects.

As Eriksen et al, 2019 suggest, climate adaptive spaces provide an opportunity to create space for contesting unequal gender relations, and therefore provide an opportunity for multiple co-benefits (Eriksen et al, 2019). Whilst changing established power dynamics presents a difficult challenge, the climate crisis could represent deep leverage points for empowering systemic transformation (Rainard et al, 2023).

8.4 Limitations and future research

The period of primary research being 5 weeks, provides a snapshot indication of change, meaning that longer-term social norm changes could not be captured. However, by referring to a gender assessment completed before the project and basing findings of change on those reported by producers, aiming for feminist epistemology, the study provides a valid assessment of change. Long-term follow up research would be most ideal to analyse the evolving effects of the GALS approach on social norms and understand whether improvements are sustained in the face of livelihood shocks (Carnegie et al, 2020, p513).

Whilst the research paid attention to intersectionality, it could not take an extensive intersectional approach (looking at many identity characteristics in detail) due to the limited time, sample and lack of data about individual identity characteristics. Future research on how GTA's affect different groups, could take a more extensive intersectional approach, including categories such as day labourers, socio-economic background, disability and sexuality and take a deeper dive into the relevance of specific cultural norms (of different migration origins), and how this might play into community level gendered social norm change.

As a result of the sensitive nature of the topic of intra-household gender dynamics, more taboo topics such as Gender Based Violence, may have been avoided in the interviews, potentially excluding an important issue. That being said, when checked with staff working frequently in the community, this was not cited as a common problem.

In addition, with more time, the research methodology could have taken a more gender-transformative method, incorporating participatory action-research. Such participatory action-based research methodological approaches are inspired by the transformative research paradigm and implement transformative principles such as giving the subjects of the study control design and implementation from start to finish (Creswell, 2014). This would have brought implementation, evaluation and research closer together, and would have enabled the coffee producers to be more active evaluators of the methodology and its effects (Mullinax et al, 2018).

In terms of development practice, given the effects of gendered norms and bias within the structure of development projects themselves, further research is needed on how to unite and develop partnerships delivering GTAs, that ensure the aims and outcomes stay true to gender transformative goals. Furthermore, given the found importance of institutional barriers in limiting gender transformative change and the substantial institutional inequality in the coffee sector in San Martin, a broader assessment of gender inequalities and bias at all levels of the supply chain, and the way they limit women's powers (as elaborated in the theoretical framework) would be beneficial. Furthermore, more critical research is needed on the broader structural inequalities of the global coffee supply chain, and how to best ensure men and women can obtain a secure and resilient livelihood in the face of economic and environmental shocks, such that gender transformative change and broader livelihood development goals can be achieved.

Beyond this study, the question of how gender inequalities intersect with the challenges posed by climate change and other environmental shocks is an important avenue of future research. Improved understanding of how gender-norms may become more entrenched and the broader risks to resilience of not integrating GTA's with adaptation processes is vital. Research into potential synergies between gender transformative change and climate adaptation, and the directionality of these relationships within different contexts, would contribute to future implementation of gender transformative climate adaptation.

9. Conclusion

In conclusion, this research answers the question: "*What is the impact of the Gender Action Learning System (GALS) approach to gender transformative change in smallholder coffee producing communities in San Martin?*". By doing so, it contributes to a research gap surrounding the effects of gender transformative approaches for coffee producing communities and contributes to theory and policy to make gender transformative approaches more effective, and align them with broader livelihood realities.

The gendered livelihoods of coffee producers present complex equality issues such as a gendered division of labour, lack of sharing of income and decision-making, land ownership, cooperative membership, influencing womens agency and access to resources, which vary based on lines of intersectional factors, primarily; age, illiteracy, migration-background and female-headed households. Furthermore, the coffee rust plague, climate change and economic uncertainty factors affect coffee producer livelihoods in San Martín, and have their own gendered dynamics, preventing coffee producer's achieving livelihood resilience.

The GALS approach as applied within the Circular Coffee Project, that has primarily technical, adaptive and productivity goals and market-based project partners, co-opts gender transformative aims and dilutes the potential impact of the GTA approach to transforming gender norms. Given the neglect of combining gender transformative aims and practices by some actors, the project can be seen to run along lines of existing structural discrimination**,** undermining the GTC of the GALS approach. Thus, the utilisation of a GTA methodology, without gender transformative design at the wider project level, can negatively influence changing gendered power dynamics and lead to important structural factors being neglected.

The GALS method as implemented in the Circular Coffee Project, creates gender transformative change at the household level, by catalysing change in perceptions of the value of women's work, gendered division of labour and its associated gender norms, improving communication within spousal relationships, increasing shared decision-making, improving women's control over income and resources. It also contributes directly to women's ''power within'' measures, including confidence, aspirations and social capital, highlighting the benefit of this approach towards changing power relations and social norms at the household, and to some degree, community level. However, negative hegemonic masculinities, and entrenched social norms prevent further changes at the community level, and alleviation of additional time burdens for women.

However, the GALS approach as implemented in this case, overlooks more structural and institutional barriers, such as cooperative membership, land ownership and access to technical trainings, which prevent women's ''power to'' and "power with", in terms of access to resources and broader opportunities for development within the coffee industry or livelihood goals, which, in turn**,** creates a negative feedback loop to changing social norms and roles at the household level. Therefore, a GTA at the household level alone is not sufficient for creating structural gender transformative change at all levels.

More critically, this research brings to light that gender-socio-cultural norms influence institutional barriers, that also have impacts for livelihood resilience and adaptation to environmental changes, highlighting the need for gender transformative approaches to consider the intersections between gender and resilience to environmental and economic shocks, to ensure that the gains of GTAs are not lost, and inequalities not worsened. This highlights that development projects cannot afford to be gender blind in some areas, whilst trying to promote GTC in others, highlighting limitations of not taking a systemic GTC approach.

This research therefore concludes that implementation of GTA's in the future look at intersectionality, institutional context, project-partner relationships, organizational bias, and the intersections of gender transformative change with broader livelihood resilience. In this sense gender transformative approaches, particularly when implemented in a global supply chain context, should take a critical, intersectional and systems approach to their design, implementation and evaluation. Rather than being utilised as singular, isolated, 'silver bullet' approaches in supply chain development projects, GTA's should be implemented as 'Gender Transformative Systems'.

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Appendices

Appendix A: Table of workshops and community characteristics

Date of evaluation workshop	Location	Time since initial GALS workshops	Community characteristics	Initial observations
08/02/23	La Merced, Lamas, San Martin	12 months since Vision Journey 6 months since Equity Tree	Migrated from Piura and Cajamarca, first generation Average age 45	Participation of both men and women was very challenging. Physical separation of men and women on either side of the room. Mirror activity- couples reluctant to show affection. 5 men, 15 women
09/02/23	Palmeras de Oromina, Moyobamba, San Martin	2 months since Vision Journey 1 month since Equity Tree	Migrated from Amazonas second generation Average age 35 (wider ranging).	More participative Women protesting when men claim they do certain work All participating in actively planning and communicating with Solidaridad for more technical sessions 3 men, 12 women
14/02/23	Nuevo Jaen, Rodriguez de Mendoza	6 months since Vision Journey 1 month since Equity Tree	Migrated from Piura Average age 40 (wide ranging).	Champion leader in equal partnership (positive influence on community) Women and men participating equally Enthusiastic participation in the workshops and seemed to be a strong mindset shift about the value of women's work as positive for the whole family 3 men, 12 women
15/02/23	Alto Peru, Soritor, Moyobamba	6 months since Vision Journey One week since Equity Tree	Migrated from Cajamarca Average age 45	Participation equal, but women seemed to protest/ express their opinion less when men claimed they did more work

				Men highlighted that they would not let the women sell coffee (but for safety reasons). 5 men, 15 women
16/02/23	Libertad de Huascayacou, Moyobamba, San Martin	3 months since Vision Journey, 1 month since Equity Tree	Migrated from Piura and Cajamara Average age 45	More men than women at the training. Participation equal but both men and women had to be persuaded to participate. Results of the 'starring' activity were not accurate as men were given more stars than the women, thus making it appear as if they do more work. 9 men, 7 women

Appendix B: Table of Interview Participants (coffee farmers)

Table to show the pseudonyms, gender, community and characteristics of interview participants. The blue shading pattern represent couples.

Pseudonym	Gender	Location and date of interview	Characteristics
Mayra	F	17/02/23 La Merced	40-50, no children, joint land ownership,
Pedro	M	17/02/23 La Merced	50-60 (see above)
Florina	F	17/02/23 La Merced	40-50, 12 children, joint land ownership, Florina no secondary education
Ricardo	M	17/02/23 La Merced	(see above)
Elena	F	17/02/23 La Merced	40-50, 5 children, male ownership of land
Cesar	M	17/02/23 La Merced	(see above)
Mannon	F	17/02/23 La Merced	30-40, 4 children, single mother, sole ownership of land (inherited)
Fernando	M	17/02/23 La Merced	50-60, no children, single, gender champion, sole ownership of land (inherited)
Daniela	F	20/02/23 Palmeras de Oromina	50-60, 1 child, 1 piece of land titled in name of man, other by both
Luis	M	20/02/23 Palmeras de Oromina	(see above)
Teresa	F	20/02/23 Palmeras de Oromina	50-60, 4 children, 2 pieces of land under man's name, 1 under both.
Hector	M	20/02/23 Palmeras de Oromina	(see above)
Veronica	F	20/02/23 Palmeras de Oromina	60-70, 8 children
Ricardo	M	20/02/23 Palmeras de Oromina	(see above)
Dorina	F	20/02/23 Palmeras de Oromina	30-40, 4 children, land under man's name
Eduardo	M	20/02/23 Palmeras de Oromina	(see above)
Lucelita	F	20/02/23 Palmeras de Oromina	40-50, 4 children, illiterate, 2 pieces of land under mans name, 1 under both
Rocio	M	20/02/23 Palmeras de Oromina	50-60, gender champion, community leader
Carmen	F	21/02/23 Nuevo Jaen	30-40, 4 children, land document under both names
Omar	M	21/02/23 Nuevo Jaen	(see above)
Sandra	F	21/02/23 Nuevo Jaen	40-50, 2 children, land document under both names
Matias	M	21/02/23 Nuevo Jaen	(see above)
Claudia	F	21/02/23 Nuevo Jaen	40-50, 3 children, land document under both names
Mateo	M	21/02/23 Nuevo Jaen	(see above)
Sofia	F	21/02/23 Nuevo Jaen	30-40, no children, land document under both names
Javier	M	21/02/23 Nuevo Jaen	Gender champion (see above)

Alejandra	F	23/02/23 Alto Peru	30-40, 1 child, Alejandra illiterate, land document under both names
Manuel	M	23/02/23 Alto Peru	(see above)
Diana	F	23/02/23 Alto Peru	50-60, 2 children, Diana illiterate
Carlos	M	23/02/23 Alto Peru	(see above)
Lorena	F	23/02/23 Alto Peru	30-40, 3 children, land under both names
Mateo	M	23/02/23 Alto Peru	(see above)
Helena	F	27/03/23 Libertad e Huascayacou	40-50, 4 children
Jorge	M	27/03/23 Libertad e Huascayacou	(see above)
Teresa	F	27/03/23 Libertad e Huascayacou	50-60, 3 children
Julio	M	27/03/23 Libertad e Huascayacou	Gender champion (see above)
Camila	F	27/03/23 Libertad e Huascayacou	30-40, 1 child, single mother (child of Teresa and Julio)

Appendix C: Table of Key Informant Interviews

Participant type	Pseudonym	Location and date	Characteristics
Field technician, Solidaridad	Catalina	Moyobamba, Peru	Working at Solidaridad for 1.5 years.
Solidaridad staff and GALS facilitator	Luna	Moyobamba, Peru	GALS lead facilitator and coordinator
Programme coordinator, Solidaridad	Layla	Lima, Peru	Working at Solidaridad for 3 years, member of Gender and Social Inclusion Learning Group
Global coffee expert, Solidaridad	Anna	Online	Working at Solidaridad for 8 years
Lead technician, OFI	Edgar	Moyobamba, Peru	
Coffee Quality Grader and on board of Aproeco (cooperative)	Marta	Moyobamba, Peru	Single mother, Working in the coffee industry for 20 years, started as a producer, now trained as coffee quality grader. On the cooperative board of Aproeco, a large cooperative in San Martin. Working for greater involvement of women in coffee industry. Single mother

Appendix D: Impact Pathway of Circular Coffee Project

Impact Pathway 1: Circular Cultivation

Utrecht University
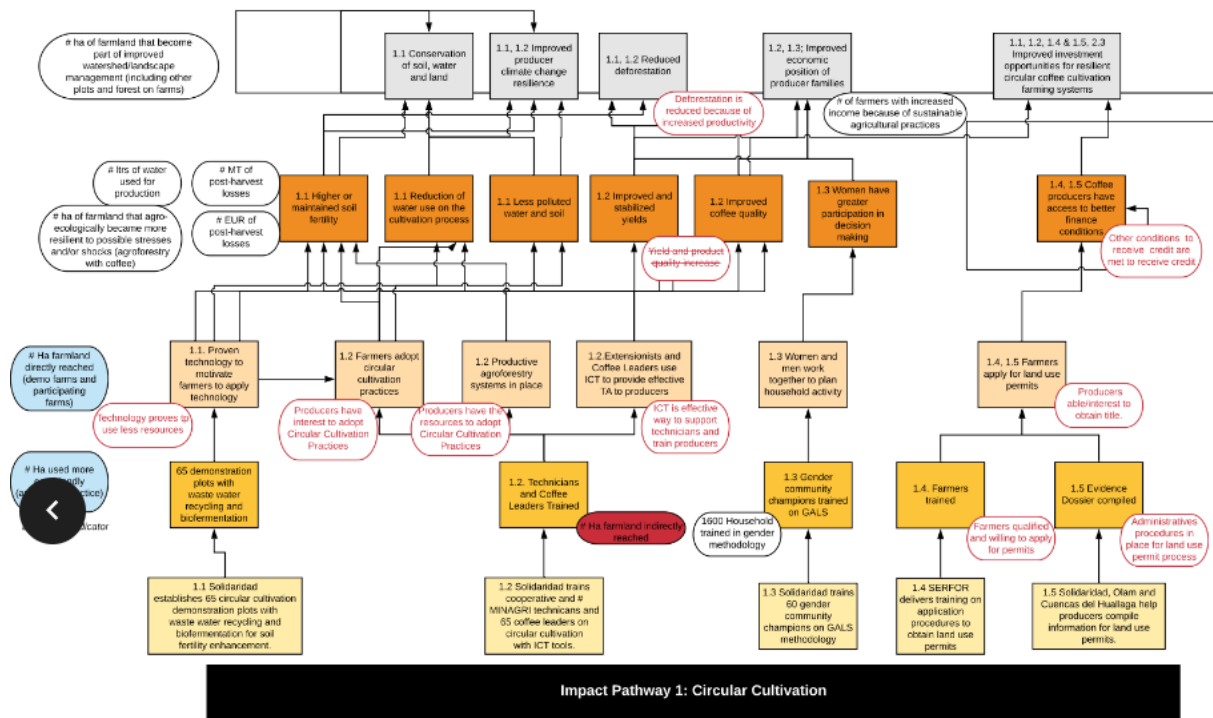
Informed Consent Form for participation in:

Investigating the gender transformative effects of a Gender Action Learning Approach in climate adapting smallholder coffee producing communities in San Martin, Peru

I confirm that:

- I am satisfied with the received information about the research
- I have been given opportunity to ask questions about the research and the questions that have been risen have been answered satisfactorily
- I had the opportunity to think carefully about participating in the study
- I will give an honest answer to the questions asked

I agree that

- The data collected will be obtained and stored for scientific purposes
- The collected, completely anonymous, research data can be shared and re-used by scientists to answer other research questions
- Video and or audio recordings may also be used for scientific purposes.

I understand that:

- I have the right to withdraw my consent to use the data
- I have the right to see the research report afterwards.

Name of participant: _____

Signature: _____

Date, place : ___/___/____ , _____

To be completed by investigator:

I declare that I have explained the above mentioned participant what participation means and the reasons for data collection. I guarantee privacy of the data**.**

Name: _____

Date: ___/___/____

Signature: _____

Utrecht University

Formulario de consentimiento informado para la participación en:

Investigando los efectos transformadores de la inclusión de género y social en la adaptación climática de pequeñas comunidades productoras de café en San Martín, Perú

Confirmo que:

- Estoy satisfecho con la información recibida sobre la investigación.
- Se me ha dado oportunidad de hacer preguntas sobre la investigación, y las preguntas que se han planteado han sido contestadas satisfactoriamente
- Estoy participando voluntariamente del estudio.
- Daré una respuesta honesta a las preguntas formuladas.

Estoy de acuerdo que

- Los datos recabados serán obtenidos y almacenados con fines científicos
- Los datos de investigación recopilados, serán completamente anónimos, y pueden ser compartidos y reutilizados por los científicos para responder a otras preguntas de investigación.
- Las grabaciones de video y/o audio también pueden utilizarse con fines científicos.

Entiendo que:

- Tengo derecho a retirar mi consentimiento para utilizar la información brindada
- Tengo derecho a ver el informe de investigación después.

Nombre del participante:_____

Firma: _____

Fecha y lugar: ____/____/____, _____

Para ser completado por el investigador:

Declaro que he explicado al participante mencionado anteriormente lo que significa la participación y los motivos de la recopilación de datos. Garantizo la privacidad de los datos.

Nombre: _____

Firma: _____

Fecha y lugar:____/____/____, _____

Interview Guide

Hello my name is Jemma, I am working with Solidaridad to conduct research on the impacts of the gender/family workshops as part of a masters research study. The objective of the research is to understand the impacts of these workshops on your lives as coffee producers. For example, has it changed your coffee producing practices, family life, responsibilities, climate adaptation etc. Ultimately, this will help to understand the benefits or disadvantages of these workshops and how to improve them in the future. If you would like to participate in an interview please let me or another Solidaridad staff member know.

Explanation of research/ Introduction to interview

- The objective of the research is to understand the impacts of the family workshops on coffee producer livelihoods, specifically gender equality and climate adaptation.
- Firstly I would like to understand a bit about your livelihood as coffee farmers, your day-to-day life, how your family operates and how you see your future in the industry.
- Secondly, I will ask about the gender and family workshops that you received, and the changes you have implemented or experienced in your livelihood since.
- Lastly, I will ask you to think about how what you learned in the family workshops and how they interlink (or not) with climate adaptive practices.
- I will first ask the question in English, and then my translator will say them in Spanish. Please answer in Spanish. My translator will translate word-for-word what you said back to me.
- There are no right or wrong answers, what is important is your honest opinion, experience or feeling.
- If you feel there is something important to mention, that I have not asked about, please feel free to explain.
- All responses will remain anonymous, and you will be given different names in the research.
- The interview will be recorded if we have your consent to do so.

1.Have you identified any inequalities within your life? Thinking about the family workshops and looking at the Plan de Vida, Equity tree and Social Empowerment maps you drew, what inequalities between men and women did you identify?
- Which are the most important/stark? Why?
  - Access to resources (technical trainings, access to financial income, opportunities).
  - Control over resources (finances, resources, materials, selling).
  - Decision making (productive, reproductive, community level).
  - Time burden (time on productive, reproductive, leisure)
  - Valuing of work/ appreciation
  - Leadership roles/ skills/ confidence

2.Have you committed to make changes to reduce these inequalities? What changes have you made?
- Gender roles → changed distribution of responsibilities within the family? (productive, reproductive).
  - **Specific Productive** - i.e. planting, composting, fertilizing, harvesting (picking), drying, selling, negotiating with buyers.
  - **Specific Reproductive**- i.e. looking after children, helping with homework, cooking, cleaning, tending to animals
- Participation of women in technical trainings?
- Ownership of agricultural units?
- Changes to sharing of income?
- Decision making (on family and community level)

- o   Any commitment to changes on control over income? Procedures used on the Finca?
- Value of womens work- adequately appreciated/ remunerated?
  - o   Women get more income from their labor?
- Leadership changes within the community?
- Transition to (inclusive) circular cultivation (climate change adaptation?).

3.Have you achieved any of these changes? How did you achieve them?
- What was the most significant change?
- Which ones were easiest to achieve?
- Which are more difficult/ have not been achieved?
- What do you believe are the remaining barriers to achieving these goals in your household and wider community?

If it doesn't come up before now→ To what extent have the family workshops (talleres de familiares) influenced your use of circular cultivation and climate adaptive practices?
- In what ways? To what extent do the changes you committed to in the family workshops compliment implementation of the circular cultivation practices? And vice versa- i.e to what extent does implementation of the circular coffee practices positively impact gender equality?

4.What happened as a result of these changes?
- Has it impacted family dynamics?
- Community dynamics/leadership?
- Planning for the family future (e.g. children's education, income, personal and professional goals).
- Circular cultivation/ climate change adaptation
- Overall control and autonomy over the future?

Closing: How would you describe what you think your future will look like in 5 years time?

Reflection: Please share any comments or last reflections on the interview.

ESPANOL

NUEVA GUIA DE ENTREVISTA

1. **¿Has identificado alguna desigualdad en tu vida? Pensando en los talleres familiares y mirando los mapas de Plan de Vida, Árbol de Equidad y Empoderamiento Social que trazaste, ¿qué desigualdades entre hombres y mujeres identificaste?**
- ¿Cuáles son los más importantes/rígidos? ¿Por qué?
  - o   Acceso a recursos (capacitaciones técnicas, acceso a ingresos financieros, oportunidades).
  - o   Control sobre los recursos (finanzas, recursos, capacitaciones técnicas).
  - o   Toma de decisiones (nivel productivo, reproductivo, comunitario).
  - o   Carga de tiempo (tiempo en productivo, reproductivo, ocio)
  - o   Valoración del trabajo/ reconocimiento
  - o   Roles de liderazgo/habilidades/confianza

2. **¿Se ha comprometido a hacer cambios para reducir estas desigualdades? ¿Qué cambios has hecho?**
- Roles de género → ¿cambió la distribución de responsabilidades dentro de la familia? (productivo, reproductivo).
  - o   **Productivo Específico** - es decir, plantar, compostar, fertilizar, cosechar (recolectar), secar, vender, negociar con compradores.

- - **Reproductiva Específica**- es decir, cuidar a los niños, ayudar con los deberes, cocinar, limpiar, cuidar a los animales
- ¿Participación de mujeres en capacitaciones técnicas?
- ¿Propiedad de las unidades agrícolas?
- ¿Cambios en el reparto de ingresos?
- Toma de decisiones (a nivel familiar y comunitario)
  - ¿Algún compromiso de cambios en el control de los ingresos? ¿Procedimientos utilizados en la Finca?
- Valor del trabajo de las mujeres: ¿adecuadamente apreciado/remunerado?
  - ¿Las mujeres obtienen más ingresos de su trabajo?
- ¿Cambios de liderazgo dentro de la comunidad?
- Transición al cultivo circular (inclusivo) (¿adaptación al cambio climático?).

3. **¿Has logrado alguno de estos cambios? ¿Cómo los lograste?**
- ¿Cuál fue el cambio más significativo?
- ¿Cuáles fueron más fáciles de lograr?
- ¿Cuáles son más difíciles/no se han logrado?
- ¿Cuáles cree que son las barreras restantes para lograr estos objetivos en su hogar y en la comunidad en general?

Si no sale antes → ¿En qué medida los talleres familiares (talleres deparientes) influyó en su uso del cultivo circular y las prácticas adaptativas al clima?
- ¿De qué maneras? ¿En qué medida los cambios a los que se comprometió en los talleres familiares complementan la implementación de las prácticas de cultivo circular? Y viceversa, es decir, ¿en qué medida la implementación de las prácticas de café circular tiene un impacto positivo en la igualdad de género?
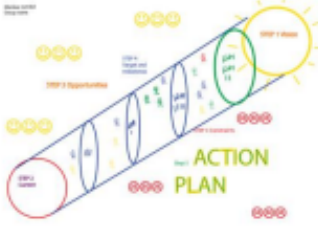
4. **¿Qué sucedió como resultado de estos cambios?**
- ¿Ha afectado la dinámica familiar?
- ¿Dinámica comunitaria/liderazgo?
- Planificación para el futuro familiar (por ejemplo, educación de los hijos, ingresos, metas personales y profesionales).
- Cultivo circular/adaptación al cambio climático
- ¿Control general y autonomía sobre el futuro?

Cierre: ¿Cómo describiría cómo cree que será su futuro dentro de 5 años?

Reflexión: Por favor comparta cualquier comentario o última reflexión sobre la entrevista.

Appendix G: Outline of the GALS approach

CONTENT	AIMS
Soulmate visioning for a happy life	• To clarify people's implicit visions of what constitutes a 'happy life' and start the workshop on a positive note. • To identify similarities and differences in visions of women and men from different backgrounds and for people as individuals. • To bring the differences into some sort of consensus, or agreement to respect differences.
Vision journey Source: GALS Rock diamonds (2017)	• To increase understanding of and respect for people's visions, current situation and how people themselves can plan strategies to achieve them. • To increase understanding of the similarities and differences in the above between women and men from different backgrounds and as individual people. • To improve participatory skills of staff and communication with women and men in the communities with whom they work.
Gender balance tree 	• Start to investigate different household structures, including incidence of polygamy and female headed households for input to the social empowerment map. • Clarify and quantify broad gender inequalities in work contribution, control over income and expenditure to avoid reliance on gender stereotypes. • See which households 'break the gender norms' as a basic for change. • Start to think about the types of services which might be needed to complement individual actions and group sharing. • Diagnostic – action