

Operationalizing Gender Transformative Research Principles: Draft Guidelines for the Citizen Science

Gender-Transformative Approach to Integrating Adolescent-Friendly Family Planning and Post-

Abortion Care project (CAFFP-PAC)

by

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We acknowledge and respect the Lək̓ʷəŋən (Songhees and X̱w̱sepsəm/Esquimalt) Peoples on whose

territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical

relationships with the land continue to this day.

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Gender-Transformative Approach to Integrating Adolescent-Friendly Family Planning and Post-
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Abstract

This project develops operational guidelines for Gender Transformative Research (GTR) to support the Citizen Science Gender-Transformative Approach to Integrating Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC) project in Northern Uganda. Adolescent Sexual and Reproductive Health (ASRH) is a significant public health challenge in the region, with rates of teenage pregnancy and unsafe abortion estimated to be 28% and 46% respectively, in just Lira District. This problem is deeply rooted in unequal gender norms and power relations. GTR offers a research framework to address these root causes by actively challenging the structures that perpetuate inequality, moving beyond mere inclusion.

This project employs a systematic document analysis, evaluating the CAFFP-PAC project design against four core GTR principles: grounding knowledge in lived experiences, using a complex intersectional understanding, challenging power at multiple levels, and maintaining an intentional, action-oriented design.

The analysis identifies strength in the CAFFP-PAC project's innovative citizen science model that empowers adolescents, especially girls and other underserved groups, as co-creators of knowledge. However, it also highlights critical gaps, including an insufficient focus on transforming structural power dynamics, a lack of explicit mechanisms for full community ownership of the research process, and the absence of economic empowerment components to ensure sustainable change.

The primary contribution of this work is a set of ten practical, evidence-based draft guidelines (Annex 1) structured around the CAFFP-PAC project's phases. These guidelines propose actionable recommendations to strengthen the project's transformative potential and help bridge the gap between GTR theory and the practical implementation of the CAFFP-PAC project.

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Dedication

I dedicate this work to the research team of the CAFFP-PAC project. Your unwavering support, thoughtful guidance, and steady encouragement have been both humbling and deeply motivating. My deepest gratitude goes to Dr. Bernard Omech for taking a leap of faith and accepting my request to collaborate on this project as a student. Each of you has contributed invaluable expertise, critical insight, and a genuine commitment to advancing the project's aims and vision.

This thesis is conceived as a foundational document, one that accompanies the ongoing life of the project and continues to evolve with new learning, community voices, and emerging evidence. I hope these pages serve as a practical compass for your continued pursuit of gender-transformative research, offering clear frameworks, reflective questions, and actionable tools to strengthen our shared commitment to centering adolescents' rights, interrogating power, and transforming the social norms that constrain their health and opportunities.

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Introduction

Adolescent sexual and reproductive health (ASRH) remains a critical public health challenge in sub-Saharan Africa (Bernays et al., 2018; Tumusiime et al., 2025; UNFPA, 2023). Traditional research and intervention strategies have predominantly focused on service delivery and access barriers, often overlooking the deeper structural and gender-related factors that influence adolescent health outcomes (Chidwick et al., 2022; Kigongo et al., 2025).

The global burden of adolescent pregnancy and unmet contraceptive needs continues to affect young women in low-and middle-income countries disproportionately (Flanagan et al., 2021; Kigongo et al., 2025). In Uganda, teenage pregnancy rates have remained stagnant at 24-25% since 2006, and according to the 2022 Uganda Demographic Health Survey, rural areas experience even higher rates(25%) than urban areas (21%) (UBOS, 2023). The existing literature shows that young people's sexual and reproductive health (SRH) challenges are deeply rooted in rigid gendered social norms and unequal power relations (Kakuru et al., 2024; Kuruvilla et al., 2016).

For years, global initiatives, such as the International Conference on Population and Development (ICPD) (Backman-Levy & Greene, 2024), and the Sustainable Development Goals (SDGs), particularly Goals 3 (health and well-being) and 5 (gender equality) (UN Women, 2018), among others, aimed at reducing gender disparities in sexual and reproductive health and rights (SRHR), but the progress remains slow. This sustained challenge highlights the limitations of conventional approaches and necessitates the pursuit of more structural and transformative strategies (Kågesten & Chandra-Mouli, 2020).

Gender-transformative approaches (GTAs) have emerged as a powerful alternative to conventional gender programming. Unlike earlier methods that simply included women in existing programs, GTAs actively examine, question, and change rigid gender norms and power imbalances (MacArthur et al., 2022). These approaches recognize that lasting change requires addressing the root causes of inequality rather than just addressing the symptoms (Mullinax et al., 2018). GTAs are recognized globally as essential for achieving sustainable gender equality, and work by encouraging

critical awareness of gender roles and norms among men and women, promoting the position of marginalized groups, and challenging the inequitable distribution of resources and duties (MacArthur et al., 2022).

Gender-transformative research (GTR) serves as the methodological backbone for GTAs. Njuki et al. (2023) define GTR as “action research that addresses the root causes of gender inequalities and creates the conditions for lasting social change at the household, community and institutional levels and generates evidence on both the processes and outcomes” (p. 208). GTR requires intentionality across several domains: the research questions posed, the methodologies implemented, the active participation and leadership of marginalized groups, and the deliberate pathways to action embedded within the research process and outputs (Mullinax et al., 2018; Njuki et al., 2023). This methodology is participatory, reflexive, critical, action-oriented, and involves collaborative integration of research and practice. This model ensures that communities are actively involved not only in generating knowledge but also in using the results to facilitate tangible social change (Lopez et al., 2023; Mullinax et al., 2018).

The relationship between GTAs and GTR is like a cycle where each supports the other. GTR informs the design of rigorous transformative programs, while these programs simultaneously serve as vital learning environments to generate evidence on what works, how, and under what contexts for achieving transformative social change (Njuki et al., 2023). However, despite the growing studies on adolescent health, methodological approaches that rigorously adhere to GTR principles remain underdeveloped (Chidwick et al., 2022).

Without specific operational guidance, research teams risk diluting the transformative potential of their work by reverting to conventional methodologies that incorporate gender superficially. This compromises the opportunity for the research process itself to drive meaningful change (Mullinax et al., 2018). Therefore, there is an urgent need for practical guidelines that can help research teams successfully implement authentic GTR processes.

Positionality

As a public health professional rooted in the Ugandan context, I bring an insider perspective on the complexities of Sexual and Reproductive Health and Rights (SRHR) programming for adolescents to this work. This background includes experience in working with youth, healthcare providers, and non-profit organizations in select parts of the country, affording me an understanding of the operational realities of ASRH service delivery. Additionally, as a member of the national-level Coalition to Stop Maternal Mortality due to Unsafe Abortion (CSMMUA), I participate in advocacy for post-abortion care (PAC) and adolescent contraception, among others. I therefore remain aware of the institutional and political conservatism that often challenges the implementation of ASRH services and the realization of ASRHR. Additionally, my academic and field-level experience in community-participatory research on adolescent sexuality strengthens my capacity to comprehend gender-transformative research and gender-transformative approaches.

Despite the above expertise, adopting a reflexive stance is key, given recognized methodological and geographic limitations. My proficiency in designing rigorously structured complex Gender Transformative Research (GTR) processes is limited, and therefore, my capacity in ensuring high methodological fidelity to advanced GTR principles is developmental. Nevertheless, I have previously applied feminist research methodologies, which relate significantly to GTR approaches. Furthermore, my direct operational experience does not extensively cover the whole of Uganda. I am therefore sensitive to potential contextual differences in gender ideologies, entrenched patriarchal norms, and unique service accessibility barriers in the different regions, including within post-conflict settings, such as Northern Uganda. To mitigate these potential knowledge gaps and ensure contextual fidelity, my analytical work is driven by continuous self-critique and a commitment to seeking expert consultation regarding local cultural dynamics, thereby maintaining an ethically grounded practice that prioritizes localized knowledge and minimizes the imposition of external biases.

Literature Review

Gender Inequality in Research

Gender inequality refers to the unequal treatment, representation, or opportunities accorded to individuals based on their gender, resulting in systematic disadvantages primarily for women and girls (Rutgers, 2019). It manifests through restricted access to information and resources, power imbalances in relationships, discriminatory laws and policies, and restrictive gender norms that limit choices and opportunities (Haylock et al., 2016; Nalukwago et al., 2019; Van Eerdewijk et al., 2017).

In traditional research contexts, gender inequality represents a complex system of power relations that shapes how knowledge is produced, validated, and utilized. It manifests through different ways, some of which are outlined below.

Power Dynamics and Voice

Traditional research practices often support the consolidation and use of power by those who already hold it (Mullinax et al., 2018) such as the adult/expert researchers. Women and marginalized genders in such instances experience constrained voice due to formal rules and informal norms concerning their participation and their mobility (Van Eerdewijk et al., 2017). Even in participatory settings, women may be soft spoken, or not to attract attention to themselves, their experiences, or their challenges (Van Eerdewijk et al., 2017).

Knowledge Hierarchies

Participatory research can perpetuate epistemic injustices where family and community knowledge can be dismissed as insufficient, incorrect, or non-existent (Grace & Anderson, 2022), particularly affecting women whose knowledge is often devalued. The feminization of the field creates additional complexities where women's contributions are seen as "labour of love" (Grace & Anderson, 2022) rather than legitimate expertise.

Methodological Bias

Methodological bias is a documented factor through which gender inequality is inadvertently reproduced within the research process, often hindering efforts toward gender-transformative change (Mullinax et al., 2018; Nnawulezi et al., 2018).

Traditional research paradigms often contribute to methodological bias by conceptually limiting how gender and other social stratifiers are measured (Fehrenbacher & Patel, 2020). Conventional methodologies often default to an additive approach, conceptualizing social determinants as discrete categories or variables that exert independent effects on outcomes (Fehrenbacher & Patel, 2020; Mullinax et al., 2018). This contrasts with GTR, which posits a multiplicative approach. The latter considers the influence of demographic categories as mutually constitutive and conditional upon the intersection of various identities (Fehrenbacher & Patel, 2020).

By isolating variables, the traditional approach oversimplifies complex, interwoven lived realities into separate measures, leading to intersectional invisibilities (Fehrenbacher & Patel, 2020; Mullinax et al., 2018). Consequently, this methodological simplification fails to capture how structural processes, such as racism or patriarchy, operate together to perpetuate multifaceted forms of disadvantage (Fort et al., 2023; Mullinax et al., 2018; Njuki et al., 2023).

The perpetuation of bias is particularly evident during qualitative data collection (Mullinax et al., 2018). Traditional research approaches often involve external researchers who often lack self-reflexivity about their own positional power within social hierarchies (Fehrenbacher & Patel, 2020). These methods frequently fail to meaningfully engage the most impacted individuals, such as survivors or marginalized populations, in conceptualizing research questions or choosing culturally relevant methods (Nnawulezi et al., 2018).

For example, studies utilizing a Feminist Socio-Ecological (FSE) framework to analyze early learning programs (ELPs) have exposed how methodological choices can reproduce existing gender norms and power dynamics (Grace & Anderson, 2022). Researchers often lack child-focused tools, forcing instruments to rely on interviews primarily with parents and teachers (Grace & Anderson,

2022; Stanlick & Szmodis, 2022). This approach risks reproducing the biases of adults and reinforces the perception that children are rarely seen as agents in gender socialization or disruption of patriarchal forces (Grace & Anderson, 2022; Stanlick & Szmodis, 2022).

Moreover, the analysis of policy documents revealed that the emphasis on calling men and fathers into the ELP field, while positive, often overshadowed the silencing of mothers and female educators within patriarchal structures, thereby omitting the discussion of women's experiences and reproducing inequitable power dynamics for the predominantly female workforce (Grace & Anderson, 2022; Stanlick & Szmodis, 2022). These findings highlight the necessity for methodologies dedicated to challenging research-researched power dynamics and valuing the knowledge of traditionally silenced groups (Mullinax et al., 2018; Nnawulezi et al., 2018).

Structural Barriers

Broader structural inequalities affect meaningful participation, including cultural attitudes and gender stereotypes (Arnott et al., 2022) that limit engagement, and the compounding effect of conflict (Arnott et al., 2022) that creates additional vulnerabilities for women participants.

Theoretical Foundations of Gender-Transformative Research

The theoretical foundations of gender-transformative research (GTR) emerged from decades of critical reflection on the limitations of traditional gender and development approaches. This evolution reflects an understanding of how gender inequalities are created and maintained.

Women in Development (WID) (1960s–1970s)

This approach focused primarily on integrating women into existing development processes without questioning the underlying structures that created inequalities (McDougall et al., 2021). Women were provided with access to training, resources, or economic opportunities and allowed to participate in formal processes. This approach was well-intentioned but often resulted in superficial changes. The approach did not question or transform the patriarchal power structures, discriminatory laws, or gender norms that caused women's marginalization in the first place. Once

the project ended or resources disappeared, women often reverted to previous conditions because the structural barriers remained intact (McDougall et al., 2021).

Gender and Development (GAD) (1980s–1990s)

GAD approaches were progressive because they shifted the focus from women as a separate category to examining gender relations and structural inequalities affecting both men and women (McDougall et al., 2021; Rathgeber, 1990). They recognized that gender inequity stemmed from unequal power dynamics embedded in social structures, not simply women's exclusion from development processes (Jaquette, 2017; McDougall et al., 2021). The Moser framework, for example, focused on women's roles of production, reproduction, and community activities, and distinguishing between women's immediate practical needs (like access to water, income) and long-term strategic gender interests (like challenging power, changing laws) (MacArthur et al., 2022; Njuki et al., 2023). This approach popularized using sex-disaggregated data to reflect inequalities in roles, asset access, and control (Singh et al., 2022).

More sophisticated GAD frameworks, like Naila Kabeer's Social Relations Framework (1990s), defined empowerment through three concepts: access to and control over resources, the ability to exercise agency (choice and decision-making), and achieving positive outcomes (MacArthur et al., 2022; Njuki et al., 2023). By focusing on the structural roots of inequality, GADs posited that sustainable social change requires transforming the unequal gender relations within different societal spheres (Jaquette, 2017; Rathgeber, 1990). However, later analysis identified key shortcomings of mainstream GAD frameworks, including Kabeer's framework. These included limited benefits beyond direct participants; reinforcement of existing gender roles; failure to address underlying structural barriers, instead focusing on practical gender needs (like access to resources) while ignoring strategic gender interests (like redistributing power); and some interventions unintentionally reinforced gender stereotypes or created backlash against women.

While theoretically sound, GAD remained largely technical in practice, potentially requiring review (McDougall et al., 2021). This gap between theoretical aspirations and implementation setbacks created the incentive for GTAs and GTR (McDougall et al., 2021; Njuki et al., 2023).

Gender-Transformative Approaches (GTAs)

The conceptual architecture of GTR was formalized through foundational work establishing classification systems for gender integration. Kabeer's (1994) framework categorized development interventions as gender-blind, gender-neutral, gender-sensitive, or gender-transformative. Transformative approaches not only recognize the unique challenges different genders face but also actively work to reshape the power dynamics between them to create more equality (MacArthur et al., 2022). This classification system provided the conceptual foundation for distinguishing truly transformative work from other forms of gender integration.

Building on this foundation, feminist research epistemologies have significantly shaped GTR by challenging traditional ideas about how knowledge is created and who holds power (Mullinax et al., 2018; Rietveld et al., 2022). Feminist research argues that to understand the lives of women and girls authentically, research should be done “with them,” not “on them.” They should be partners in defining the problem and deciding what questions the research needs to answer (Grace & Anderson, 2022; Mauthner, 2023; Mullinax et al., 2018; Njuki et al., 2023). This shift in epistemology acknowledges that all research is value-laden and not objective, and therefore calls for clear attention to power relationships in knowledge creation (Leaney & Webb, 2021; Njuki et al., 2023).

Central to GTR's theoretical foundation is the goal of nurturing critical consciousness (Hillenbrand et al., 2015; Kantor et al., 2015; Van Eerdewijk et al., 2017). This means helping women and girls see how inequality works against them, question it, and build the confidence to believe in themselves and demand what they are entitled to (Van Eerdewijk et al., 2017). This concept of critical consciousness, rooted in Freire's work on critical pedagogy, emphasizes that transformation requires not just awareness of inequalities but active engagement in challenging and changing oppressive structures (Rietveld et al., 2022). As feminist scholars argue, true transformational

approaches must go beyond the economic or health outcomes of the welfare, anti-poverty, equity, or efficiency visions of progress, to address fundamental power relations (MacArthur et al., 2022).

Core Principles of Gender-Transformative Research

Gender-transformative research is distinguished from other forms of gender-integrated research by its adherence to specific principles that ensure transformative potential. Mullinax et al. (2018) identify four core principles that emerged from extensive analysis of organizational practices: knowledge generation grounded in lived experiences, complex intersectional understanding, dedication to challenging power at multiple levels, and intentionality in research design and use.

Grounded in Lived Experiences

GTR must be grounded in the lived experiences of women and girls, from start to finish. This requires moving beyond traditional research approaches where communities are subjects of study to collaborative processes where they become co-researchers and knowledge creators. This centers participant expertise and agency, recognizing that those most affected by gender inequalities possess critical insights into both problems and solutions.

Complex Intersectional Understanding

GTR requires a complex and intersectional understanding of women and girls based on an understanding of context and history (Mullinax et al., 2018). In the context of Northern Uganda, this means recognizing how gender intersects with age, ethnicity, socioeconomic status, disability, and the legacy of conflict to shape young people's experiences (Achen et al., 2022; Lundgren et al., 2019). Research on gender norms in post-conflict Uganda demonstrates how traditional gender roles have evolved due to conflict and post-conflict recovery, creating both opportunities and challenges for young people (Lundgren et al., 2019). Intersectional approaches acknowledge that different women and girls face diverse constraints but also have unique opportunities to pursue in their lives (Van Eerdewijk et al., 2017), requiring research designs that can capture these complex dynamics.

Challenging Power at Multiple Levels

GTR involves dedication to revealing and challenging power at multiple levels, from the obvious to more subtle forms of inequality, so as to shift toward equality and justice (Mullinax et al., 2018). For example, in Uganda's patriarchal society, restrictive gender norms make adolescent boys more likely to engage in risky sexual behavior and make girls more vulnerable to negative SRH outcomes (Achen et al., 2022). These norms are reinforced through multiple institutions, including family structures, religious organizations, and educational systems (Blaak, 2023). Research, therefore, should examine both individual experiences and structural factors, including social norms, attitudes, behaviors, and social systems that support gender inequality (Mullinax et al., 2018). The focus extends beyond documenting inequalities to actively working to transform them through the research process itself.

Intentional Action-Oriented Design

According to Mullinax et al (2018), GTR emphasizes intentionality in both research design and the utilization of findings, ensuring that the research process consistently leads to concrete action. This necessitates developing a clear and explicit plan detailing how the research findings will be mobilized to catalyze genuine change. The scholars emphasize that the design of GTR projects must be purpose-built to influence key stakeholders, including policymakers, advocacy organizations, and institutional decision-makers. Additionally, researchers are required to systematically monitor and assess the extent to which their work successfully contributes to the reduction of gender inequality.

Methodological Approaches and Implementation Frameworks

GTR requires a departure from traditional extractive methods toward methodologies that are participatory, reflexive, and action-oriented (Mullinax et al., 2018).

Participatory Methodologies

Participatory Action Research (PAR) / Feminist PAR (FPAR). PAR is foundational to GTR, emphasizing collaborative knowledge production between researchers and community members

(McGranahan et al., 2021). FPAR explicitly addresses gender power dynamics throughout the research process, ensuring transformative principles are integrated from planning to dissemination (MacArthur et al., 2022). In the context of adolescent SRH, PAR approaches have demonstrated effectiveness in addressing complex challenges by engaging young people as co-researchers (Chidwick et al., 2022). Studies from Kenya, Tanzania, Uganda, and Rwanda show that when adolescents are meaningfully engaged in research design and implementation, interventions are more culturally appropriate and sustainable (Chidwick et al., 2022).

Citizen Science (CS) Approaches. CS extends PAR by positioning community members, including adolescents, as active scientists capable of identifying research questions, collecting data, and interpreting findings (Haklay et al., 2021). This democratizes knowledge, challenges the assumption that only professionals can produce valid findings (p.42), and is valuable in GTR because it combines research with action, building critical consciousness and advocacy skills among participants (p.v). This dual function, which includes producing knowledge and building capacity for social change, makes citizen science an ideal methodology for research that aims to transform rather than simply study gender inequalities (Haklay et al., 2021). Although powerful, there is limited application of this approach in Uganda. For example, it was applied in Western Uganda to co-design and implement a contextualized schistosomiasis communication campaign with community volunteers. It demonstrated successful outcomes such as empowering communities to appreciate study findings, promoting local ownership of interventions, and facilitating the use of contextual sensitization approaches for effective awareness raising (Anyolitho et al., 2024).

Mixed Methods. GTR commonly employs mixed methods to capture both the breadth (quantitative data on changes in attitudes and outcomes) and depth (qualitative data on how and why transformations occur) of the processes of change (McDougall et al., 2021). GTR analysis often includes participatory analysis, where community members interpret findings to ensure they remain grounded in lived experiences and drive the research agenda (Mullinax et al., 2018).

Bridging Theory to Practice with Implementation Science

Implementation science (IS) is the scientific study of methods and strategies that promote the systematic uptake of research findings and other evidence-based practices into routine use (Lee et al., 2024). Its primary goal is to improve the quality and effectiveness of health services by understanding how to successfully integrate proven interventions into real-world settings (Chu, 2024; Lee et al., 2024). Traditional research usually asks the questions, does this intervention work? (efficacy) Or, does it work in a real-world setting? (effectiveness). However, implementation science asks, how do we best make this intervention work in this specific setting? (Chu, 2024). IS frameworks provide the practical structure for translating GTR's social justice goals into measurable and sustainable actions. Two of these are discussed below.

The Practical, Robust Implementation and Sustainability Model (PRISM). PRISM is used to systematically identify multi-level contextual factors that influence intervention success (Fort et al., 2023; Rabin et al., 2022). It operationalizes GTR principles by requiring a deep structural analysis across four domains to ensure interventions address systemic drivers of inequity: The external environment (political, economic, social factors); Multi-level perspectives on the intervention (stakeholder views); Characteristics of implementers and intended audience; Implementation and sustainability infrastructure (organizational and system-level factors) (Fort et al., 2023).

The RE-AIM Framework. RE-AIM evaluates the real-world impact across five dimensions—Reach, Effectiveness, Adoption, Implementation, and Maintenance (Kwan et al., 2019). When viewed through a GTR lens, these dimensions measure transformative change beyond simple health outcomes. Reach measures equitable engagement, verifying successful inclusion and representation of the most marginalized adolescents. Effectiveness refers to the impact of a project on outcomes. It requires intersectional analysis of outcomes, disaggregating data to ensure the intervention benefits all subgroups and does not unintentionally widen disparities. Adoption indicates institutional transformation by measuring the uptake and willingness of institutions like health facilities to integrate equitable practices, demonstrating a shift in the status quo. Implementation assesses the fidelity and quality of delivery, focusing on whether the process itself was transformative by tracking

changes in power relationships and decision-making throughout the research activities. Finally, Maintenance is the ultimate indicator of structural transformation, assessing whether changes in attitudes, institutional policies, and equitable power dynamics persist after project funding ends (Kwan et al., 2019).

Implementation Realities: Best Practices and Challenges

Best Practice Featuring Successful Examples

Successful GTR projects consistently demonstrate key common elements that translate transformative principles into measurable impact.

Deep Community Engagement and Ownership. Projects succeed when communities become genuine co-researchers and decision-makers, rather than merely being consulted (Mullinax et al., 2018). The project in Fiji and the Solomon Islands, for example, allowed communities to define their own metrics for gender equality, ensuring the measures reflected local values and culture. Community members identified what gender equality actually meant in their daily lives (Rietveld et al., 2022). For example, whether women could speak freely in village meetings, whether men helped with childcare, whether young people felt safe to express their identities, and whether families made decisions together rather than having one person dominate. The research was gender-transformative because instead of using outside definitions of success (like women's economic empowerment), the project let communities define progress in their own terms, recognizing that gender equality might look different in island cultures compared to Western societies (Rietveld et al., 2022).

Integration of Research and Action. Effective GTR treats research and action as simultaneous activities (Mullinax et al., 2018). The WorldFish project in Zambia used drama skits (a research method) to generate data on gender dynamics while simultaneously serving as an intervention mechanism for critical reflection, leading to a shift in fishing gear ownership from men-only to joint ownership. The research created change by ensuring that the community members didn't just watch the plays, but also helped to write them, act in them, and discuss what they meant afterward. Some of the results of the transformation were an increase in joint ownership of fishing gear between

husbands and wives from 44% to 76%, and an increase in women's participation in fishing from 5% to 75%. Furthermore, joint decision-making on how fishing income was spent increased from 65% to 94% (Rietveld et al., 2022).

Focus on Multi-Level Change. Projects must target change across individual capacities, social relations, and social structures simultaneously (Mullinax et al., 2018). The SASA! program in Uganda successfully reduced intimate partner violence by engaging diverse stakeholders, from community activists to police officers, ensuring transformation occurred at individual, relational, community, and societal levels. SASA! used participatory research methods like community dramas, discussion groups, and peer-to-peer dialogue to help people critically examine power dynamics and gender inequalities in their daily lives, while simultaneously collecting data on how these discussions changed attitudes and behaviors over time. The program's research design was transformative because it actively involved community members as both researchers and agents of change, using local activists to lead over 11,000 activities that reached an estimated 260,000 people in Kampala. What made SASA! particularly effective was its commitment to long-term measurement, with a rigorous 5-year evaluation that demonstrated sustained improvements in gender equity, reduced violence, and better health outcomes, proving that community-led research approaches could create lasting social transformation rather than just temporary behavior change (Backman-Levy & Greene, 2024). Following its success in Uganda, SASA! has since been adapted for implementation in over 30 countries by more than 75 organisations (Backman-Levy & Greene, 2024).

Youth-Led and Context-Specific Approaches. Engaging adolescents as co-creators ensures interventions are appropriate and sustainable (Fortin et al., 2021). A project in **Senegal** trained adolescents to conduct SRH research, empowering them as knowledgeable advocates who could better identify barriers to services than adults (Fortin et al., 2021). Similarly, research on young motherhood in two Ugandan districts also applied a youth peer research methodology by centering young mothers aged 15-19, as co-creators of knowledge. They participated in the design and translation of data collection tools into the local language, led the collection of data from their peers,

participated in the interpretation of findings, and led advocacy activities. This active involvement captured nuanced data on challenges like sexual violence, stigma, and lack of essential SRHR products (Kakuru et al., 2024).

Projects tailored for different groups. The GREAT project in Northern Uganda tailored narrative-based interventions on SRH and gender-based violence to different life stages to achieve statistically significant gains in gender equity, reduced violence, and improved SRH outcomes. The project's success stemmed from its comprehensive approach that engaged multiple age groups simultaneously while tailoring content to specific life stages. The intervention included a 50-episode serial radio drama set in the fictional town of Oteka, complemented by participatory activities, including storybooks on puberty for very young adolescent (VYA) boys and girls, as well as a life-sized board game, radio discussion guides, and activity cards tailored to each life stage (Dagadu et al., 2022). This multi-component approach demonstrated how GTR can use diverse methods to reach different populations while maintaining coherent, transformative messages. (Dagadu et al., 2022).

Challenging Institutional Structures. Success requires transforming the formal and informal rules in institutions (McDougall et al., 2021; Njuki et al., 2023; Van Eerdewijk et al., 2017). In Peru, researchers partnered with Indigenous communities who were experiencing poor health outcomes, especially among pregnant women and children, but were often ignored or mistreated by mainstream healthcare systems (Rietveld et al., 2022). The research team used participatory methods where Indigenous community leaders, women's groups, and traditional healers became co-researchers who identified their own health priorities and solutions. Together, they created detailed case studies about maternal health that combined traditional Indigenous knowledge with modern medical practices. For example, training nurses to respect Indigenous birthing positions and the use of medicinal plants alongside standard medical care. The research was gender-transformative because it challenged the assumption that Western medicine was automatically better, instead elevating Indigenous women's knowledge about pregnancy and childbirth as equally valuable. The

outcomes included policy changes that required healthcare workers to learn Indigenous languages and cultural practices (Rietveld et al., 2022).

Researcher Reflexivity. This refers to the critical self-examination by researchers of their own positionality (such as age, gender, culture, institutional affiliation) and how these factors shape research questions, methodological choices, data collection, and interpretation (Lopez et al., 2023). Teams that practice reflexivity also adopt transformative research practice. The Consultative Group on International Agricultural Research (CGIAR) undertook GTR by letting its own researchers lead the change from within rather than imposing new approaches from above. When individual researchers across different CGIAR centers realized that they were struggling to address gender inequality in their agricultural projects, often feeling isolated and lacking the tools to challenge deeper structural problems, they united to form their own Community of Practice (CoP) on GTR Methodologies (Lopez et al., 2023). This research approach was gender-transformative because it recognized that the research organization itself had gender problems: women farmers were being overlooked, male researchers dominated decision-making, and agricultural innovations were designed primarily with men in mind, even though women do much of the world's farming work. Instead of simply training researchers to include women in their studies, the CoP created spaces for researchers to critically examine how their own research methods and institutional culture perpetuated gender inequalities, then collaboratively developed new ways of doing research that put gender equality at the center rather than treating it as an afterthought. The researchers experimented with participatory methods that involved women farmers as co-researchers rather than just subjects, challenged assumptions about who counts as a "real farmer," and worked to transform their own organization's policies and practices to better support gender-equitable research, demonstrating that gender-transformative research must change not just the communities being studied, but the institutions and researchers doing the studying (Lopez et al., 2023).

Implementation Challenges

The implementation of gender-transformative research faces challenges that span organizational, methodological, and political dimensions. Understanding these challenges and identifying best practices is important for developing effective implementation guidelines.

Organizational Challenges. These are key barriers to GTR implementation. Many organizations lack the institutional commitment necessary to support transformative approaches. Mullinax et al. (2018) learnt from researchers that while they had a strong desire to conduct GTR, they also acknowledged having limited ability to achieve this desire due to organizational, financial, and contextual constraints (Mullinax et al., 2018). Organizations working toward deeper integration of gender frameworks require clear institutional leadership that prioritizes and incentivizes gender across the institution (Mullinax et al., 2018).

The Funding Environment. The funding environment presents additional challenges for GTR implementation. Traditional funding mechanisms often prioritize short-term targeted measures, to the detriment of working toward long-term gender transformative goals (Lopez et al., 2023). GTR requires sustained and substantial funding that supports iterative, flexible processes rather than predetermined outcomes (Mullinax et al., 2018). Successful implementation requires longer-term grants, open-ended funding, and dynamic reporting processes that accommodate the unpredictable nature of transformative change (Mullinax et al., 2018). The “Science of Citizen Science” literature acknowledges that when projects involve ethical review processes, researchers may need to maintain certain levels of oversight to ensure compliance with regulatory requirements (Tauginiene et al., 2021). This is particularly relevant when funding bodies require specific accountability measures that cannot be entirely delegated to community members.

Capacity Gaps. GTR requires researchers to develop new competencies beyond traditional research skills. Organizations identify gaps in technical training about gender theory and feminist research methodologies (Mullinax et al., 2018). Successful capacity building must be designed as a bottom-up, re-informing learning agenda that gets everyone talking to each other, rather than top-

down training approaches (Mullinax et al., 2018). According to Lopez et al. (2023), conceptual training is not enough, and training initiatives need to directly connect with the specific plans, activities, and issues of the program.

Technical and methodological expertise may deter the power transfer to communities in GTR processes. While GTR aims to democratize research, Banks and Brydon-Miller (2018) argue that there is no guarantee that people will sign up. If they do, they may not deliver what was anticipated or promised (Banks & Brydon-Miller, 2018). This is particularly relevant when research requires specific technical skills or methodological expertise that community members may not possess initially. The literature posits that academic guidance is appropriate when it involves supporting, resourcing, and training researchers to engage in collaborative, participatory, and dialogical methodologies (Mullinax et al., 2018). This includes situations where researchers provide technical training while gradually transferring skills to community members, as seen in capacity-building approaches (Mullinax et al., 2018).

Partnership Dynamics. These present both opportunities and challenges for GTR implementation. While partnerships are essential for transformative work, Mullinax et al. (2018) highlight the difficulty in creating successful and productive collaborations that do not reinforce existing power hierarchies (Mullinax et al., 2018). Often, the same power imbalances that exist in society get repeated in research partnerships, for example, control of research questions and methods by academics, or community organizations being viewed as data sources rather than equal partners in research, or male researchers studying women's issues may dominate conversations. Successful partnerships require explicit attention to power dynamics and mechanisms for ensuring that local actors, men, women, community, local organizations, traditional leaders, and policy makers can meaningfully drive and sustain change processes (Mullinax et al., 2018).

Ethical Constraints. Ethical considerations in GTR implementation extend beyond traditional research ethics to encompass transformative responsibilities. GTR requires ethical protocols that go beyond the principle of informed consent to ensure all research partners are committed to the

principles of gender-transformative research (Rietveld et al., 2022). This includes ensuring that research processes themselves do not reproduce harmful power dynamics and that participants benefit from their involvement in research. In contexts where research topics intersect with restrictive legal frameworks, researchers have ethical obligations to protect participants from potential legal consequences (Banks & Brydon-Miller, 2018). Tauginienė et al. (2020) emphasize that in citizen science projects involving sensitive topics, protecting human subjects in research is traditionally guided by informed consent, and requires careful attention to legal and ethical issues surrounding copyright, intellectual property, data-sharing agreements, and confidentiality (Robinson et al., 2018; Tauginienė et al., 2021). When community members might unknowingly expose themselves to legal risks through their research activities, academic oversight becomes a protective mechanism rather than a power grab.

Conclusion of the Literature Review

The body of literature firmly establishes GTR as an essential, complex methodology that addresses the deeply entrenched, structural roots of gender inequality that conventional approaches have failed to dismantle. GTR demands a commitment to feminist principles: grounding knowledge in lived experience, centering intersectionality, and challenging power at all levels—and must be linked to an explicit action agenda. Bridging the gap between GTR theory and practice requires integrating these principles with robust implementation science frameworks, such as PRISM for contextual design and RE-AIM for measuring sustainable structural change. By consciously adopting participatory methodologies and learning from successful multi-level, multi-component interventions, researchers can move beyond merely studying inequality to actively catalyzing lasting social transformation. However, overcoming challenges related to funding constraints, capacity gaps, and measuring relational change necessitates intentional methodological rigor and continuous reflexivity throughout the entire research process.

Project Outline

Project Description

This project is situated within the initial year of the Comprehensive Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC) project, an ongoing implementation science initiative in Northern Uganda.

The CAFFP_PAC Project Context

The project titled, “Enhancing Adolescents' Sexual and Reproductive Health in Northern Uganda: A Citizen Science Gender-Transformative Approach to integrating Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC)” is a research initiative that was intentionally designed to achieve gender-transformative outcomes (Kigongo et al., 2025). This three-year project integrates Gender Transformative Research (GTR) with practice to address health challenges while simultaneously transforming harmful gender norms.

However, as highlighted in the introduction, this integration of CS-GTA requires careful methodological consideration to ensure that the research process itself contributes to gender transformation rather than just studying it (Mullinax et al., 2018). The challenge, as expressed by the research team, lies in developing systematic approaches that can guide implementation while maintaining the flexibility and responsiveness that characterize authentic transformative methodologies.

CAFFP-PAC is implemented by five institutions: Lira University (Principal Investigator providing overall leadership and coordination), GLOFORD Uganda (Co-PI Civil Society Organization handling community mobilization and youth engagement), University of Calgary, Canada (Co-PI Canadian-Based Researcher supporting content development and knowledge mobilization), Lira District Local Government (Co-PI Decision Maker ensuring policy alignment and resource mobilization), and Reproductive Health Uganda/RHU (partnering organization providing technical SRHR expertise and service delivery).

Northern Uganda's unique post-conflict context presents both opportunities and challenges for implementing gender-transformative research. Beginning in 1986, the region experienced over two decades of armed conflict that fundamentally altered social structures while paradoxically intensifying certain patriarchal norms. Research shows that in this region, rigid gender norms and post-conflict economic realities create an environment in which young people struggle to bridge the gap between idealized and experienced gender roles (Sengupta & Calo, 2024).

Available local data underscores the urgency of intervention. In Lira City, a study found that about 60% of adolescent girls show limited knowledge and practices on SRH, including menstruation and the consequences of unsafe sex (Ssembogo & Ukoha, 2025). The Adolescent pregnancy and unsafe abortion rates in Lira District are reported at 28% and 46% respectively (Omech et al., 2024). According to the district records, 5000 pregnancies are projected to occur annually, and teenage pregnancies in Lira contribute to 20% of infant deaths and 28% of maternal deaths nationally (Omech et al., 2024). Access to essential services remains severely limited. In Lira City, only 31.7% of women aged 15-24 report good access to family planning services, with key barriers including lack of privacy (57.7%), fear of mistreatment (77.2%), and decision-making difficulties (66.2%) (Kigongo et al., 2024). Despite restrictive abortion laws, unsafe abortions constitute 39.8% of all abortions in Northern Uganda, yet uptake of post-abortion care and family planning remains low, as articulated in the project document (Omech et al., 2024).

The CAFFP-PAC Project Approach

The CAFFP-PAC employs an innovative Citizen Science Gender-Transformative Approach (CS-GTA), intentionally positioning adolescents as co-creators of knowledge and active change agents, thereby moving beyond conventional top-down service delivery models. This participatory research model requires collaboration between non-academic community members and research professionals to identify and address barriers to SRHR access influenced by gender inequalities.

Growing evidence supports the potential of adolescent participation in research for identifying solutions to health issues that concern them (Fortin et al., 2021). Meaningful youth

participation has positive effects on empowerment and civic engagement of young people; on adult staff and organisations' capacity to institutionalise meaningful involvement of young people, and provide youth-sensitive SRHR interventions (Fortin et al., 2021).

Objectives of the CAFFP-PAC Project

The overarching goal of the project is to assess, co-design, implement, and evaluate the integration of CAFFP-PAC using a citizen science, gender-transformative approach to improve access to, and utilization of CAFFP-PAC, by female and male adolescents and other underserved population groups in Lira, Northern Uganda. The project is structured around six specific objectives that guide the implementation through three different phases:

Phase I - Assessment and Baseline Studies (June-December 2025). This phase addresses two objectives. **Objective 1** is to assess the baseline profile of adolescent-friendly family planning and post-abortion care services in Northern Uganda, with a focus on gender and intersectional disparities in Lira, Northern Uganda. This objective covers baseline studies to 1) assess the community's level of RE-AIM and KAPs regarding FP and PAC, 2) establish the status of CAFFP-PAC integration at the facility level, and assess the associated barriers and facilitators to integration, as well as 3) ascertain the feasibility of successfully integrating CAFFP-PAC into the public primary healthcare facilities. **Objective 2** is to engage adolescents as citizen scientists in identifying and addressing barriers to accessing and utilising family planning and post-abortion care services.

Phase II - Co-Design and Implementation (Jan to Dec 2026). This addresses **Objective 3**, to co-design and implement a gender-transformative training program for healthcare providers to improve the delivery of adolescent-friendly services.

Phase III - Evaluation and Dissemination (Jan – March 2028). This focuses on **Objective 4**, to evaluate the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) of integrated services in improving sexual and reproductive health outcomes among adolescents; and **Objective 5**, to document and disseminate best practices and lessons learned from the implementation of the gender-transformative approach.

Expected Results

The project anticipates achieving several key outcomes: 1) Improved Access and Utilization: Increased access to and utilization of family planning and post-abortion care services among adolescents, particularly among marginalized groups; 2) Enhanced Provider Competency: Healthcare providers will demonstrate improved competency in delivering gender-sensitive and adolescent-friendly services; 3) Empowered Adolescents: Adolescents will be empowered to actively participate in their sexual and reproductive health decisions and advocate for their needs; 4) Reduced Gender Disparities: A reduction in gender disparities in sexual and reproductive health outcomes, including a decrease in unintended pregnancies and unsafe abortions; 5) Sustainable Practices: Development of sustainable practices and policies that support the integration of gender-transformative approaches in adolescent health services.

Project Rationale

The primary purpose of this project was to develop practical guidelines (Annex 1) intended to strengthen the transformative potential and methodological rigor of the CAFFP-PAC initiative. This is necessary because integrating a participatory citizen science approach with the overarching goals of a GTA requires keen methodological consideration to ensure that the research process itself contributes to gender transformation, beyond just collecting data (Mullinax et al., 2018). Recognizing the difficulty in translating the flexible requirements of transformative methodologies into systematic, practical implementation, this project directly addresses the research team's expressed need for structured guidelines. These resultant guidelines systematically operationalize the four core Gender Transformative Research (GTR) principles defined by Mullinax et al. (2018): Knowledge grounded in lived experiences; Complex and intersectional understanding; Challenging power at multiple levels (ensuring the research process shifts the status; Intentionality in research design and use (ensuring all knowledge directly informs action and policy).

By focusing on these principles, the MA project aims to mitigate the risk of methodological slippage, preventing the transformative intent from being diluted into conventional research

practices. The guidelines are timely as the project is in the first year of implementation. While one phase is already completed, and the baseline is underway, the guidelines (Annex 1) will provide the CAFFP-PAC research team with an actionable framework for the effective implementation of GTR, going forward, ensuring that the research is both scientifically rigorous and optimally aligned for structural and social change.

Methods

Guidance for Analysis

The CAFFP-PAC project is designed as an implementation research initiative, integrating evidence generation with practical intervention delivery through a Citizen Science Gender-Transformative Approach (CS-GTA) (Omech et al., 2024). To assess how the project applies gender-transformative research (GTR) principles, I separated the project into research (knowledge generation) and non-research (implementation) components. The GTR framework organizes these components into three central research stages: planning, implementation, and dissemination and utilization. The research components are supported by non-research elements related to funding and institutional systems.

To analyze CAFFP-PAC's alignment with GTR principles, I mainly focused on its Research Components, as these phases determine the methodological rigor, centering of marginalized voices, and intentionality toward structural change.

Non-Research Components

Non-research components within the CAFFP-PAC framework include support functions and implementation activities. These are essential for the project's success, but do not involve the direct generation, analysis, or evaluation of research data related to gender dynamics or service access (Mullinax et al., 2018). The key non-research activities include:

Governance and Oversight. Establishing the administrative structure, including defining roles for collaborating partners (such as Lira University, GLOFORD Uganda, and the Lira District Local Government) and the Project Technical Advisory Committee (P-TAC) (Omech et al., 2024).

Capacity Building. Training personnel or community groups outside of the core research cycle, such as Post-Doctoral Fellowships for Lira University researchers, or workshops aimed at training Civil Society Organizations to advocate for similar projects. Additionally, workshops for community stakeholders on Value Clarification and Attitude Transformation (VCAT) are also key implementation activities (Omech et al., 2024).

Operational Implementation. This refers to the actual delivery and execution of the integrated CAFFP-PAC services into primary healthcare facilities, including any technical support like providing technical expertise in Sexual and Reproductive Health and Rights (SRHR).

Infrastructure and Mobilization. Efforts on relationship building (social cohesion and trust building) among various stakeholders (Kigongo et al., 2025), implementing physical changes like creating confidential, safe, youth-centered spaces within clinics (Kigongo et al., 2025), and strengthening existing structures like training Village Health Teams (VHTs) for follow-up (Kigongo et al., 2025).

Research Components (Focus for GTR Assessment)

As guided by Mullinax et al. (2018), the analytical focus of the application of GTR principles included the activities within the phases of the CAFFP-PAC that directly involve knowledge generation, methodological design, analysis, and ethical dissemination aimed at structural change (Mullinax et al., 2018).

Inception Phase. This phase aimed to explore how a community-led, adolescent-centered process could integrate adolescent-friendly family planning and post-abortion care (CAFFP-PAC) into primary healthcare. While it is not clearly articulated in the design document, the content is expounded in a recently published article by members of the research team. For this reason, the article, titled ***“Bridging Participation Gaps: A Community-Led Inception for Integrating Comprehensive Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC) into Primary Healthcare Facilities in Northern Uganda”*** (Kigongo et al., 2025), became a unit for assessment. The key activities in this phase included innovative and participatory methods (dialogue circles, breakout sessions, simulations, visual storytelling, role-plays, poem recitations, drama skits, and access mapping exercises). The research team also employed structured discussion and feedback techniques, such as stakeholder mapping and power analysis, small group discussions, brainstorming sessions with idea walls, anonymous feedback cards, plenary reflections and discussions, and interactive question and answer panels (Kigongo et al., 2025). This phase illuminates the

operationalizing of GTR principles by challenging power imbalances and engaging adolescents as co-creators.

Phase 1 (Baseline Studies) - This aligns with the requirement for grounding knowledge in a complex, intersectional understanding of lived experiences (Mullinax et al., 2018). It establishes the foundation for measuring transformation. During this phase, cross-sectional quantitative and qualitative studies were planned to assess the baseline profile, knowledge, attitudes, practices (KAPs), and the community RE-AIM outcomes related to Family Planning (FP) and Post-Abortion Care (PAC). The aim is to establish the current status of CAFFP-PAC integration, identifying existing barriers and facilitators (Omech et al., 2024). The GTR analysis should explore how the design centers adolescents during this phase and the plan to capture baseline metrics (quantitative and qualitative) on relational and structural changes necessary for GTR, beyond individual change (Mullinax et al., 2018).

Phase 2 (Co-Design and Implementation) – This phase is planned as a hybrid of research and non-research components. The research activities planned include participatory dissemination of baseline findings through data parties, and prioritisation and ranking activities to interpret the findings and identify action priorities. Another research activity planned for this phase is the co-design of a context-specific health service delivery model and health services training manual using a participatory technique called the World Cafe. My analysis examined design provisions on centering adolescent voices and power dynamics during dissemination and design. Considering that the co-design aspect, informed by research findings, is the mechanism through which the transformative gender strategy is applied, I envisaged data generation to happen and explored provisions for measuring relational and structural metrics.

Phase 3 (Evaluation and Dissemination). This phase is planned to assess whether the transformative methodology achieved its goals. It includes an impact evaluation using a quasi-experimental design, with before-and-after comparisons between intervention and control sites. The evaluation applies the RE-AIM outcomes framework (Reach, Effectiveness, Adoption,

Implementation, and Maintenance) to assess the efficacy, sustainability, and systemic changes brought about by the CS-GTA. The planned measurement focuses on evaluating changes in knowledge, attitudes, and practices (KAPs); service utilization; reductions in gender disparities; and shifts in social norms. The analysis focused on provisions for relational and structural changes, the goal of GTR, rather than just individual agency. Provisions for centering of adolescent voices in evaluation and dissemination activities were also examined.

Document analysis

A document analysis framework was designed to assess the alignment of the CAFFP-PAC project with the four core GTR principles below by Mullinax et al. (2018). This approach was selected as the most appropriate method for evaluating transformative research elements within an existing project design (Omech et al., 2024) without requiring primary data collection.

Knowledge grounded in lived experiences: assessing whether the project focuses on the real-life experiences and voices of the people most affected (adolescents).

Complex, intersectional understanding: examining if the project has provisions to measure how gender interacts with age, location, socioeconomic status, and other identities to produce different impacts.

Challenging power at multiple levels: examining approaches to unequal power relations within households, communities, institutions, and systems, including between the researchers and community participants.

Intentional, action-oriented design: determining whether the project translates findings into practical strategies, tools, or policies that promote gender-equitable change. I designed and followed the approach below to conduct the analysis.

1. A Document Review - Comprehensive reading of the CAFFP-PAC project document to understand project design, methodology, and implementation approach.
2. Principle-by-Principle Analysis - Each section of the project was examined against the four GTR principles.

3. Evidence Mapping – Specific textual evidence from the CAFFP-PAC design document (Omech et al., 2024) was mapped against each principle to identify areas of alignment or gaps. The inception phase is documented in a published article (Kigongo et al., 2025), and this was the unit of analysis for that phase.
4. Critical Analysis - Evaluation of the depth of alignment, ensuring the assessment moved beyond surface-level mentions of gender to evaluate authentic transformative provision.
5. Generation of Recommendations - Proposing evidence-based strategic and practical guidelines derived from the critical analysis.
6. Drafting the Preliminary Guidelines - The final step translated the comprehensive GTR analysis into a structured, actionable preliminary draft. The guidelines were organized by the CAFFP-PAC project phases (Preparatory, Phase I, Phase II, and Phase III), identifying and building upon existing transformative provisions (strengths) and providing targeted recommendations. Recognizing the complexity of achieving full transformation, the guidelines are presented as a flexible draft, encouraging continued participatory refinement and adaptation by the CAFFP-PAC research team.

Limitations

The method that was used is a document analysis, meaning the findings are based on the intended design of the CAFFP-PAC project, as described in official project documents and published literature, rather than on observations of actual implementation processes or outcomes, beyond inception. This distinction is important because design documents often represent idealized intentions, and the reality of implementation frequently diverges from what is written, influenced by contextual constraints, resource limitations, and unforeseen challenges that emerge in practice.

However, the timing of this analysis presents an opportunity. At the point of data extraction, only the inception phase and Phase I (baseline studies) of the CAFFP-PAC project had been completed. This early-stage evaluation means that the findings, while limited to design analysis, can still inform improvements in the subsequent phases (Phase II and Phase III) of the project. The

recommendations generated by this analysis are therefore actionable and timely, rather than retrospective reflections on completed work.

Secondly, the developed guidelines are a preliminary draft. They represent a starting point and require a participatory process of review, adaptation, and validation with the full CAFFP-PAC research team and community partners to ensure they are contextually appropriate and practically feasible.

Thirdly, I acknowledge my own positionality and potential biases. While I have academic and professional experience in Adolescent SRHR in Uganda, it may not fully capture all relevant dimensions of gender transformation due to limited expertise in that methodology. The analysis is inevitably shaped by my prior experience, literature review, and assumptions about what constitutes effective GTR, which may privilege certain approaches or overlook others that different stakeholders/research team members might consider equally or more valuable.

Finally, the focus was intentionally placed on Research Components (knowledge generation) to ensure methodological rigor. However, transformation inevitably relies on Non-Research Components such as governance structures, funding mechanisms, and policy alignment. This narrow focus may overlook important non-research implementation challenges (like procurement, personnel turnover, or institutional resistance) that could ultimately derail the transformative agenda, regardless of the methodological design's quality.

Timeline and Implementation Plan

On April 1st of 2025, I read about the CAFFP-PAC project, situated in Northern Uganda, in the national print media. The focus on transformative work was of specific interest, leading to initial contact with the Principal Investigator, who responded promptly and positively by introducing me to the project coordinator. Following a discussion with my supervisor, I decided to shift from a thesis to a project.

The first collaborative steps were taken in June, involving meetings with GLOFORD, the project's community partner and Co-PI organization, to define a graduate project. A partnership

agreement was subsequently drafted and signed, initially focusing on creating a manual for health workers on Gender-Transformative Approaches (GTA). A literature review for this work spanned the month of July.

However, a pivotal re-prioritization occurred on August 8th during a meeting with the overall project coordinator. The focus was formally shifted away from the health workers' manual to the current objective: developing comprehensive guidelines to ensure methodological fidelity to Gender-Transformative Research (GTR) principles within the CAFFP-PAC project. The core information extraction and analysis phase commenced during the subsequent months.

The literature review, information extraction, and the initial critical analysis were conducted primarily in August and continued through September. The first draft was presented to the research team online on September 4th of 2025. This required immediate analytical recalibration because the team had just published an article detailing the process of their inception phase, which necessitated integrating this new document into the GTR analysis framework. Following this, the first draft was shared with the community partner on September 20th, along with guidance to expand the operational guidelines. The six-month implementation period concluded in October with the sharing of the second draft with the community partner and my primary academic supervisor.

Interpretation of the CAFFP-PAC Project Alignment with GTR Principles

Gender-Transformative Research (GTR), as defined by Mullinax et al. (2018), is research designed to study gender roles and actively transform unequal gender power dynamics and structures. It is guided by four core principles: 1) Grounding knowledge in the lived experiences of adolescents, 2) Using a complex and intersectional understanding of context and identity, 3) Challenging power dynamics at multiple levels to advance equality and justice, and 4) Designing research with a clear and intentional path to action.

The following analysis assesses the CAFFP-PAC project's phases against this framework.

Inception Phase

While the inception phase for the CAFFP-PAC project is complete, I retrospectively analyzed its strengths and gaps to guide future project teams on how to embed GTR principles from the very beginning, ensuring that research is transformative by design, as Mullinax (2018) posits. This foundational phase sets the stage for the entire project by establishing its approach and engaging stakeholders. The article by Kigongo et al. (2025) was used for this analysis.

Strengths

Commitment to GTR. By design, the project is clearly framed with a Citizen Science Gender Transformative Approach (CS-GTA), demonstrating a clear intention to reshape harmful social structures and empower marginalized adolescents from the outset. This commitment to a transformative orientation directly addresses the fourth GTR principle (intentional, action-oriented design) by indicating that the entire research agenda is deliberately structured to challenge inequality, not merely document it.

Adolescent-Centered and Participatory Methods. The inception process employed creative, non-hierarchical methods including dialogue circles, breakout sessions, storytelling, role-plays, and drama skits. By consciously selecting methods that reduce formal power differentials and create space for open sharing, the inception phase directly operationalized the first GTR principle of grounding knowledge in lived experiences. The research team deliberately oversampled adolescent

participants (25 out of 110 stakeholders) and prioritized their voices in defining the research problem, ensuring that adolescents were not passive subjects of study but active co-designers of the research agenda. This participatory foundation ensures that subsequent research phases are grounded in the authentic concerns and priorities of the population most affected by adolescent SRH challenges.

Rapid Assessment of Root Causes and Norms. During the inception phase, the research team engaged community members in identifying socio-cultural and gender norms, including stigma, fear, and community gossip, as primary barriers to adolescent agency and service access. This focus addresses the second GTR principle of complex, intersectional understanding by recognizing that individual behaviors and health outcomes are shaped by embedded social norms. The inception findings moved beyond superficial access barriers (like proximity to clinics) to identify the underlying gender and social dynamics that create the actual obstacles to adolescent SRHR. By naming these root causes collectively with stakeholders, the inception phase established a shared commitment to addressing systemic causes rather than symptoms.

Institutionalization of Youth Voice (Structural mechanism). Notably, during this phase, stakeholders endorsed the commitment to establish Youth Advisory Groups (YAGs) as permanent, formalized structures within health facility governance. This decision directly addresses the third GTR principle (challenging power at multiple levels) by establishing a structural mechanism that includes adolescent influence in institutional decision-making processes. YAGs represent an attempt to redistribute power within health systems by ensuring that adolescents have a continuous voice, influence, and accountability over providers and policies affecting their health, rather than viewing youth participation as a temporary consultation activity. This institutionalization signals that the project recognizes power as a structural feature requiring structural solutions, not merely attitudinal change.

Gaps

Limited Evidence of Community Ownership. While the inception phase achieved strong adolescent participation, there is insufficient evidence in project documents that communities achieved full ownership of the research process itself. Ownership extends beyond being consulted or validating findings; it involves community control over research questions, methodology, data interpretation, and utilization decisions. The gap here is that the research is still designed and controlled by the academic and organizational research team, with community members in an advisory or collaborative role rather than a co-leadership role. To strengthen this alignment with GTR's first principle, the project would need to explicitly transfer methodological authority and data ownership to community members.

Insufficient Detail on Structural Policy Transformation. The project's commitment to establishing Youth Advisory Groups (YAGs) as identified in the inception phase directly targets local institutional power dynamics for sustainability, representing progress toward challenging local hierarchies in service delivery. However, the project documents lack specific, formal pathways for systematically influencing higher-level structural factors, such as restrictive national policies governing adolescent confidentiality, parental consent requirements, or national resource allocation for adolescent SRH. For example, Uganda's highly restrictive abortion legal framework creates a structural barrier that directly limits the feasibility and acceptability of post-abortion care services, yet the project does not detail a strategy for engaging with this policy constraint. This represents a gap in the third GTR principle (challenging power at multiple levels) because structural transformation requires addressing both local institutional dynamics (which YAGs do) and policy-level constraints (which the project has not articulated).

Unclear Mechanisms for Researcher Reflexivity. The project design document highlights a need for critical self-awareness and reflexivity in GTR. However, it does not explicitly detail the mechanisms for academic researchers to continuously challenge their own biases. Unexamined biases can critically derail project goals by imposing external, often Western or academic,

perspectives onto local contexts, thereby ignoring community expertise and power dynamics (Lopez et al., 2023).

Phase I - Engagement and Baseline Studies (June-December 2025)

This phase focuses on data collection to understand the initial context, and it is structured around two primary objectives: assessing the baseline profile of adolescent-friendly family planning and post-abortion care services with attention to gender and intersectional disparities, and engaging adolescents as citizen scientists in identifying and addressing barriers to service access. This phase represents the critical transition from conceptual commitment to methodological implementation.

Strengths

Intersectional Baseline Assessment. Objective 1's explicit focus on assessing gender and intersectional disparities is a key strength, demonstrating commitment to the second GTR principle. This ensures the baseline analysis goes beyond simple metrics to reveal how different aspects of identity intersect to create unique barriers, aligning directly with GTR principle II. The project leverages the Practical, Robust Implementation and Sustainability Model (PRISM) as its guiding framework to operationalize the GTR principle of intersectionality. The framework recognizes and addresses the multiple forms of discrimination across various levels, from the individual adolescent to the broader community and policy environment. While this is a strength, there is no clear framework for rigorous intersectional analysis.

Engaging Adolescents as Citizen Scientists. During this phase, under objective 2, the project applies the citizen science model. Adolescents (aged 10 – 19) are engaged as citizen scientists to co-create research as experts in their own lives. This participatory approach directly challenges traditional power dynamics between researchers and participants (principle III), ensuring that findings are grounded in lived reality (principle I).

Gaps

Non-participation in the design of the baseline. Phase I involves the rigorous scientific tasks of developing data collection tools, training data collectors and enumerators, and conducting

surveys, KAPs, and feasibility studies. The description of these activities indicates that while quantitative data collection employs systematic and stratified sampling for broad inclusion, the actual roles of adolescents appear limited to providing information via surveys rather than actively participating in generating it. The academic researchers are the ones who conceptualize and manage the technical aspects of the study design.

Insufficient Focus on Measuring Relational Dynamics. The baseline assessment, particularly the Knowledge, Attitudes, and Practices (KAP) survey, is designed to capture individual-level attributes. However, GTR requires demonstrating changes in relational power dynamics (principle III). Relational metrics such as household power dynamics in sexual health decisions, the precise nature of community stigma and gossip, and the levels of trust between adolescents and service providers appear to be missing from the baseline tool development plan. Without a solid baseline for these interpersonal and community-level norms, the project will struggle to measure the core transformative change it aims to achieve in how power is negotiated and how social relationships shape adolescent agency, a gap in fulfilling Principles II & III.

Lack of a Systematic Process for Mapping Structural Barriers. During the project's inception phase, participants identified structural barriers through stakeholder dialogue, including issues with health system readiness and provider attitudes. However, the baseline plan lacks a systematic process for formally mapping these structural and institutional barriers that perpetuate inequality. This deep analysis should involve a structured examination of formal facility policies (e.g., parental consent laws), assessment of physical infrastructure for confidentiality gaps, resource allocation deficits, and institutional norms that create a hostile environment for adolescents. This gap risks addressing symptoms (like poor provider attitudes) without targeting the systemic rules and resource limitations that enable them.

Robustness of Citizen Science Engagement. The project's Citizen Science Gender Transformative Approach (CS-GTA) is a key strength that grounds the research in adolescent lived experiences (principle 1). However, a potential gap is in ensuring that this engagement extends

beyond data collection to include co-analysis. While adolescents are planned to participate in co-design and validation, the initial analysis of baseline data appears to be led by academic researchers. For the approach to be truly robust and transformative, senior researchers should consider empowering adolescents as partners in interpreting findings, not just as subjects providing data or validating pre-analyzed themes. This transition from subject to analyst is important for challenging traditional power dynamics (principle III), capturing nuanced insights, and ensuring that young people meaningfully shape the research agenda from its inception. Sustaining this level of authentic participation is key to the project's transformative potential.

Phase II - Co-Design and Implementation (Jan to Dec 2026)

This phase is dedicated to action, focused on co-designing and implementing a gender-transformative training program for healthcare providers (Objective 3).

Strengths

Structural Change Mechanism (YAGs and Advocacy). Following a recommendation from participants at the inception, the intervention was redesigned to incorporate mechanisms aimed at achieving structural change through institutionalizing youth participation. The goal is to set up Youth Advisory Groups (YAGs) to formalize adolescent involvement within health facility governance and decision-making structures, linking adolescents directly to providers and policymakers. This approach directly addresses the third GTR principle by embedding youth influence into the organizational fabric of the health system, ensuring adolescent voices exert meaningful influence.

Addressing Institutional Power. The project targets healthcare providers with a gender-transformative training program that directly addresses professional attitudes and tacit institutional norms identified as major barriers by adolescents. The content, collaboratively determined by citizen scientists, aims to shift provider behaviors toward nonjudgmental, confidential, and respectful care (Principles III and IV).

Collaborative and Contextual Co-Design. The application of the World Café co-design approach, involving participatory methods, ensures the training program and overall integrated model are grounded in the realities identified by adolescents (Principles I, II, and III).

Empowering Adolescents in Implementation. The plan for adolescent citizen scientists to lead community awareness campaigns and advocacy shifts power to beneficiaries, promoting community ownership and directly translating research insights into action-oriented steps towards shifting gender norms.

Gaps

Clarity on Institutional Policy Reform. The design is not clear about the process by which the provider training will challenge institutional rules (formal policy, budgeting) at health facilities beyond individual staff behavior (Principle III). Without a defined pathway for the curriculum to be adopted into permanent Continuing Medical Education (CME) or pre-service education, p.22 (Ministry of Health Uganda, 2010), the intervention will fail to achieve systemic transformation.

Monitoring Transformative Fidelity. The project plan is not clear on indicators for actively monitoring the fidelity of the gender-transformative components of the health provider training (Principles III and IV). The project should consider defining how it will assess whether providers move beyond merely adopting new knowledge to genuinely changing their behaviors in ways that challenge power inequities in service delivery (such as maintaining confidentiality and offering non-judgmental care to minors).

Phase III - Evaluation and Dissemination (Jan – March 2028)

This final phase evaluates the project's impact using the RE-AIM framework (Objective 4) and disseminates lessons learned (Objective 5).

Strengths

Comprehensive Approach to Evaluation (RE-AIM). The use of the RE-AIM framework provides a robust structure for a GTR-aligned evaluation. The “Reach” dimension can specifically measure if the project successfully reduced gender and intersectional disparities (principle II).

“Effectiveness” can be assessed using disaggregated data to see if outcomes were equitable across different subgroups (principles II and III).

Measuring Structural Change (Adoption and Maintenance). The RE-AIM framework measures structural transformation. The “Adoption” dimension measures the institutional capacity and willingness of health facilities to integrate new, equitable practices, indicating a shift in the status quo (Principle III); “Maintenance” is supported by the planned role of the Youth Advisory Groups (YAGs). The YAGs function as institutionalized mechanisms to continuously monitor service delivery and provide feedback to policymakers. This long-term youth involvement is an indicator of sustained structural transformation and accountability within the health system, which extends beyond the project's funding cycle.

Focus on GTR Learning. Objective 5, which is dedicated to documenting and disseminating lessons learned from the gender-transformative approach itself, ensures that the project contributes to the broader evidence base on how to effectively design and implement GTR projects.

Gaps

Missing Framework to Analyze Intersectionality. Objective 4 includes "Reach" and "Effectiveness." However, the proposed methodological approach measures aggregate change, and does not detail how inequalities (such as the intersection of being a young mother and poor and rural) will be analyzed in the quantitative data set (e.g., using multi-level modeling or geospatial analysis) to reveal differential program impacts (Fehrenbacher & Patel, 2020). Failure to specify this analysis risks masking continuing inequities among the most vulnerable subgroups.

A Gap in Defining and Measuring Maintenance of Transformation. The project is designed to challenge and transform restrictive gender norms and unequal power relations at their root. However, the maintenance evaluation focuses on verifying service continuity, that is, whether services are still running and supported by the health system. This focus on operational sustainability is insufficient because the true measure of gender transformation success is the sustained transformation of community norms and relational power dynamics (principle III), not just the

availability of services. The plan is limited in indicators for capturing these deeper, long-term, normative shifts after project funding ends. Without explicitly defining how the transformed roles of youth mentors, cultural leaders, and parents persist, the evaluation risks confirming service delivery while failing to capture whether the project's core transformative goals have been achieved (Principle IV).

Participation Gap in Dissemination. GTR dissemination should be ethical, participatory, and aim to elevate the voices of marginalized participants (principle I). However, in its dissemination strategy (Objective 5), the project is not clear on how it will actively involve adolescents as co-creators in shaping the final research narratives, policy briefs, and communication strategies, which risks reverting to traditional, expert-led forms of dissemination (Principle III).

Discussion

The primary strength of the CAFFP-PAC project is the leadership's proactive decision to implement a gender-transformative initiative. This project is a direct product of that strategic orientation. As observed in the literature, organizational leadership that deliberately commits to GTR can mitigate major implementation challenges, such as institutional resistance, inadequate funding, or a lack of understanding of feminist research principles (Lopez et al., 2023; Mullinax et al., 2018). By providing institutional backing, the leadership of the CAFFP-PAC project creates a protective and enabling environment that allows for the authentic application of GTR principles, hence addressing the common pitfalls that can hinder such initiatives (Mullinax et al., 2018) .

The project's proactive commitment to integrating a Citizen Science Gender-Transformative Approach (CS-GTA) aligns it with contemporary feminist theory that demands research must challenge structural inequalities rather than merely describing them (Mullinax et al., 2018; Njuki et al., 2023). This discussion interprets the project's design, highlighting its powerful structural mechanisms and identifying key areas where methodological refinement is essential to ensure sustainable transformation.

Centering Researcher Reflexivity

The project design document reflects researchers' intent to maintain reflexivity throughout the research, without mentioning the practical mechanisms. GTR requires researchers to recognize that all research is value-laden, and unexamined biases can unintentionally reinforce the power hierarchies and structural inequalities the project aims to challenge (Mullinax et al., 2018; Njuki et al., 2023). Without continuous self-scrutiny, researchers risk imposing Western or technocratic biases onto local contexts (Rietveld et al., 2022).

A researcher's failure to be reflexive can directly undermine the project's goal of achieving sustained gender transformation. For example, if an academic researcher fails to critically examine their bias that quantitative data is superior to qualitative, situated knowledge, they might unconsciously privilege easily measurable outcomes (like increased contraceptive uptake rates) over

deeper, harder-to-measure changes in relational power within households or communities (Backman-Levy & Greene, 2024; Lopez et al., 2023). This oversight, rooted in a lack of continuous self-challenge, could lead to interventions that address visible symptoms (like lack of service access) but miss the underlying, persistent barriers, such as male partners controlling the income or decision-making power that dictates women's autonomy (Njuki et al., 2023; Van Eerdewijk et al., 2017). Consequently, the research remains merely accommodative to existing inequities, failing to achieve the required structural change in gender norms and power relations (Rietveld et al., 2022). The project might show high numbers of services delivered but fail to achieve true empowerment or lasting equity, ultimately jeopardizing the transformative goal (Backman-Levy & Greene, 2024; Mullinax et al., 2018).

The Plan to Institutionalize Youth Participation as a Structural Mechanism

The plan to move beyond temporary participation by establishing permanent, formalized channels for youth influence through the formation of Youth Advisory Groups (YAGs) (Kigongo et al., 2025) is a significant structural strength of the CAFFP-PAC design.

This approach is transformative because it addresses the systemic barriers inherent in public health systems. Traditional top-down interventions often exclude adolescents, resulting in services that are ill-suited to their needs (Kigongo et al., 2025). By creating YAGs within health facility teams, the project institutionalizes meaningful adolescent participation, transforming youth from passive recipients of care into active co-creators and accountability partners (Kigongo et al., 2025). This deliberate integration within governance and decision-making structures signals that adolescent voices have authentic influence, thereby ensuring service accessibility and long-term sustainability (Kigongo et al., 2025; Snow et al., 2018; Van Reeuwijk, 2018).

The rationale for YAGs resonates with a pilot study on rights-based accountability mechanisms in Northern Uganda's health sector (Arnott et al., 2022). The findings showed that integrating community monitors within health management structures led to duty-bearers immediately recognizing and acting on their obligations to provide quality care (Arnott et al., 2022).

Similarly, mandatory youth participation structures align with the call to systematically track outcomes beyond individual behavior change, focusing instead on whether inequitable policies and attitudes persist at the institutional level (Backman-Levy & Greene, 2024; Kigongo et al., 2025).

By positioning YAGs as bridges linking adolescents to providers and policymakers (Kigongo et al., 2025), the CAFFP-PAC will advance youth agency to catalyze change in different areas:

Institutional Adoption. YAGs create internal pressure for the "Adoption" of equitable practices within the health facilities (a key dimension of the RE-AIM framework) (Kwan et al., 2019; Omech et al., 2024).

Sustained Accountability. They enforce the "Maintenance" of transformative changes (e.g., respectful provider attitudes, confidential spaces) by monitoring the health system and providing a continuous feedback loop long after the project ends (Kigongo et al., 2025).

Structural Advocacy. Youth advocates, supported by the local District Local Government as a partner, are empowered to directly engage policymakers on issues like confidentiality laws and resource allocation, ensuring that the evidence generated directly informs policy reform, as planned in the Citizen science-led provision of integrated CAFFP-PAC services & policy advocacy (Omech et al., 2024).

This institutionalization strategy elevates the project's structural commitment beyond time-bound activities, distinguishing it as truly transformative (Mullinax et al., 2018).

Intersectional Analysis and Complex Understanding of Gender

The CAFFP-PAC project leverages the Practical, Robust Implementation and Sustainability Model (PRISM) as its guiding framework to operationalize the GTR principle of intersectionality. PRISM, developed as a contextual expansion of the RE-AIM framework, is well-suited for this purpose, as it transcends individual-level outcomes to assess how multi-level contextual factors influence intervention success and equity (Rabin et al., 2022).

However, while the selection of PRISM signals a strong intent to address intersectionality, the project design document does not articulate methodological frameworks for examining intersectional experiences in the data collection, analysis, and interpretation plans of Phases 1-3.

The simple inclusion of intersectional variables in a survey instrument (such as age, gender, and rural/urban residence) is not sufficient for achieving true intersectional analysis, which must actively reject additive models that treat identity categories as distinct, independent factors (Fehrenbacher & Patel, 2020). Instead, genuine intersectionality requires sophisticated methods that illuminate how interwoven identities create unique and often compounded experiences of oppression (Fehrenbacher & Patel, 2020; Mac-Seing et al., 2020).

Bridging the Integration Gap from Activity to Sustainable Structural Change

Achieving sustainable gender transformative outcomes requires a clear operational pathway for systematically integrating diverse interventions to ensure a cumulative structural impact (McDougall et al., 2021; Rietveld et al., 2022). It is important to distinguish between project activities intended for temporary capacity building and formalized structural mechanisms designed for long-term sustainability (McDougall et al., 2021).

The currently planned provider training in Phase II, which aims to improve gender-sensitive and non-judgmental care, is structured primarily as a time-bound capacity-building effort (Omech et al., 2024). It does not clearly define the pathway for that training to become a permanent, mandatory, and self-sustaining part of the health system itself. Without connecting individual empowerment activities to systemic change, positive changes in individuals risk being contained or even reversed by unchanging social structures (McDougall et al., 2021).

For example, the GREAT project in Northern Uganda successfully achieved lasting change by designing multi-layered interventions that aligned content with specific individual and family life stages (Dagadu et al., 2022). This design ensured that the program delivered coherent, reinforcing messages about gender equity and SRH across the entire social ecosystem, impacting individuals, couples, and the wider community simultaneously (Dagadu et al., 2022). Instead of focusing

narrowly on one group, GREAT's approach created a comprehensive transformation that was reinforced across different social levels, leading to structural and behavioral improvements. This demonstrates the power of integrating interventions both horizontally (across the community) and vertically (from individual attitudes to structural norms) (Dagadu et al., 2022).

To transition the provider training from a temporary activity into a true structural mechanism, the CAFFP-PAC team must formalize its adoption pathway. This can be achieved by actively leveraging the Lira District Local Government partnership to integrate the co-designed curriculum into established governmental programs, such as mandatory Continuing Medical Education (CME) schedules for health staff. Institutionalizing this curriculum signals to providers that respectful and equitable care is a permanent professional requirement, thereby achieving genuine and sustainable policy transformation.

Similarly, Research by Kantor et al. (2015) on GTAs in agricultural development (p. 311) shows that optimal results are achieved when social and technical interventions are sequenced and layered rather than implemented in isolation (Kantor et al., 2015). By detailing how the health workers whose capacity is built through the training curriculum are continually monitored and evaluated by the established Youth Advisory Groups (YAGs), the CAFFP-PAC project successfully establishes an essential, layered accountability mechanism that leverages formalized youth involvement to enforce institutional compliance and sustain change.

Gap in Measurement of Relational and Normative Transformation

To validate its claim of achieving gender transformation, the project must enhance its baseline and endline measurement instruments to capture the complexity of change (Mullinax et al., 2018). The Knowledge, Attitudes, and Practices (KAP) survey in phase I risks capturing individual-level changes, without detailing changes in the underlying power dynamics (Principle III). Yet, GTR's goal is to transform the power dynamics and social structures that shape individual lives (Mullinax et al., 2018). Relational metrics such as household decision-making power, community-level stigma, and trust between adolescents and service providers are central to realization of this goal (McDougall et

al., 2021; Njuki et al., 2023). These contextual factors are the fabric of the gender system that the project aims to transform. Successful GTR projects, like the WorldFish initiative in Zambia, have effectively measured relational change by tracking shifts in joint ownership of assets and women's input into household financial decisions, demonstrating that such measurement is both possible and essential (Lopez et al., 2023; McDougall et al., 2021; Rietveld et al., 2022). In the CAFFP-PAC context, this means systematically measuring:

Intra-familial Power. This refers to how decisions about healthcare access, contraception use, and post-abortion care are negotiated between adolescents, parents, and partners (Kigongo et al., 2025).

Community Normative Change. The perceived acceptability of non-marital sexual activity and contraceptive use for adolescents among non-beneficiaries, like community leaders and general community members (Kigongo et al., 2025).

Relational Trust. Changes in adolescent-reported levels of confidentiality and non-judgmental treatment by health providers, a central barrier identified during the inception phase (Kigongo et al., 2025).

By incorporating qualitative measures that focus on the process of change, such as narrative analysis from focused group discussions about challenging stigma (Kigongo et al., 2025), the project can demonstrate how the intervention achieved its transformative impact, addressing the persistent knowledge gap identified in broader adolescent SRH research (Backman-Levy & Greene, 2024).

Mapping Structural Mechanisms that Influence Transformation

Structural transformation requires moving beyond shifts in attitudes and informal norms to directly engage formal policies and institutional constraints (Principle III) (Lopez et al., 2023). This is relevant for the CAFFP-PAC project, as the intervention targets Post-Abortion Care (PAC) services, which are constrained by Uganda's restrictive legal and policy environment on abortion (Mulumba et al., 2017; Ncube et al., 2024). Unsafe abortions remain a major contributor to maternal deaths, yet the legal framework represents a severe structural barrier that necessitates an advocacy

strategy (Adams et al., 2013; Mulumba et al., 2017). Furthermore, other formal power structures, such as national or institutional policies governing adolescent confidentiality and mandatory parental consent, dictate service availability regardless of provider attitudes (Njuki et al., 2023). Without incorporating a structural analysis of these restrictive laws and political dynamics into the project design and baseline measurement, the interventions risk only addressing the symptoms of inequality (e.g., poor provider communication) while the entrenched structural root causes persist, limiting sustained change (Njuki et al., 2023). In Box 1, I share a personal example on structural transformation to advance PAC provision in a restrictive environment, from my experience in reproductive rights advocacy.

Box 1 – Example from my practice on Integration Across Multiple levels

In my work with an SRHR advocacy network in Uganda, we used the knowledge that the country's restrictive and often ambiguous abortion laws were a primary structural barrier to safe reproductive healthcare (HRAPF, 2016; Mulumba et al., 2017) to find solutions for the vulnerable groups of interest. The legal framework, which criminalizes abortion with only a narrow exception to preserve a woman's life, creates a climate of fear and uncertainty (HRAPF, 2016; Kagaha & Manderson, 2021). Our formative research confirmed that healthcare providers, particularly midwives and clinical officers, were reluctant to provide even legally permissible post-abortion care (PAC) for fear of legal repercussions, including arrest, prosecution, and professional stigma (HRAPF, 2016; Mulumba et al., 2017). This, in turn, forces women to seek care from unskilled providers or attempt dangerous self-induction, contributing directly to Uganda's high rates of maternal morbidity and mortality from unsafe abortion (HRAPF, 2016; Mulumba et al., 2017).

1. Building Agency (Individual level): The Harm Reduction Model

Our first step was to build the **agency** of individual health workers. We identified the harm reduction model as an evidence-based public health and human rights framework that could empower providers to act within the restrictive legal environment (Mulumba et al., 2017). Originating from efforts to reduce HIV transmission, this model prioritizes strategies to reduce harm and preserve health in situations where certain activities are stigmatized or prohibited (Kayondo et al., 2023; Mulumba et al., 2017).

We provided training on how this model could be applied to abortion care in Uganda, focusing on its core principles: a humanistic respect for a woman's right to make choices, a pragmatic focus on providing information about the safest available methods, and a neutral stance on the morality of the abortion itself (Mulumba et al., 2017). This training equipped health workers with the knowledge and ethical framework to provide lifesaving information and post-abortion care, thereby strengthening their capacity and confidence to act in the best interest of their patients.

2. Shifting Relations (The Interpersonal and Inter-Institutional Level) – Legal Professionals Team

However, building individual agency is insufficient if the external structures remain entirely hostile (Van Eerdewijk et al., 2017). A lone health worker, regardless of their training, remains vulnerable to a punitive legal system (HRAPF, 2016). Therefore, our second step, which I interpret as transformative, was to empower a critical mass of legal professionals from different parts of the country to litigate reproductive rights, highlighting the nuances of Uganda's reproductive health laws and policies. To date, these provide timely legal response to health providers incarcerated by these laws, and the structure is integrated into the strategic plan and budgets of the host institution. This strategy shifted the power dynamic between a health worker and law enforcement. It created a protective buffer, reducing the potential for unlawful incarceration for enforcers who misinterpret the law (Mulumba et al., 2017) or intimidate and extort money from the vulnerable health workers (HRAPF, 2016). It also fostered a stronger, more resilient professional community, reducing the sense of isolation that fuels fear and inaction.

3. Challenging Structures (The Systemic Level)

This group of professionals was established to provide an immediate, expert response for any health worker who was arrested or threatened with legal action for providing abortion-related care. This approach challenges the existing structure without necessarily changing the law on paper immediately. It was institutionalized and included in the lead organization's strategic direction.

- **The Oppressive Structure** - The primary structure here is the restrictive legal framework and a punitive justice system that criminalizes life-saving care.
- **The Counter-Structure** - The legal professionals team acts as a new, protective structure designed specifically to mitigate the oppressive function of the criminal justice system in this context. While the restrictive laws remain in the books, this team challenges their enforcement and provides a tangible mechanism for accountability. This structural support makes the exercise of individual agency a viable and sustainable choice for health workers, rather than an act of isolated, high-risk defiance

By combining individual empowerment through training with the creation of a protective relational and structural network, our approach moved beyond simply educating individuals and began to transform the environment in which they work. This multi-level strategy is a hallmark of effective advocacy, creating the conditions for more resilient and lasting change.

The Sustainability Gap - Defining and Measuring the Maintenance of Transformation

In Phase III, the project's current plan focuses on the sustainability of services, whether they are still operational after funding ends. This is an important logistical outcome, but it is not a measure of gender transformation (Backman-Levy & Greene, 2024). The ultimate goal of GTR is to create lasting change in social norms, power relations, and structures so that gender equality becomes self-sustaining (Backman-Levy & Greene, 2024; Mullinax et al., 2018). True maintenance, from a GTR perspective, would involve assessing whether provider attitudes remain gender-equitable, whether institutional policies continue to support adolescent-friendly care, and, most importantly, whether community norms around adolescent sexuality and gender roles have fundamentally shifted (Backman-Levy & Greene, 2024).

This reflects a common pitfall where programs are evaluated on short-term, individual-level outcomes, hindering their ability to demonstrate lasting norm change. Backman-Levy and Greene (2024) argue that gender-transformative programs should demonstrate sustainability and spread, meaning their impact lasts beyond the project's life and extends beyond direct beneficiaries. Without indicators to measure these deeper, long-term shifts, the CAFFP-PAC project risks being unable to prove its core transformative success, even if services continue to be available.

Conclusion and Recommendations

This project addresses an expressed need for structured, practical guidance to implement authentic Gender-Transformative Research (GTR) within the context of the Citizen Science Gender-Transformative Approach (CS-GTA) of the CAFFP-PAC project in Northern Uganda. The region faces persistently high adolescent pregnancy rates and profound challenges in accessing sexual and reproductive health (SRH) services, problems deeply rooted in unequal gender norms and power relations. By moving beyond traditional methodologies that only focus on access barriers, this work attempts to provide a framework for translating the project's visionary commitment to transformation into rigorous and sustainable practice.

The assessment confirms that the CAFFP-PAC project strongly aligns with GTR principles, particularly through its innovative adoption of the CS-GTA model. This approach shifts power dynamics by positioning marginalized adolescents as co-creators of knowledge, grounding findings in their lived experiences as mandated by GTR Principle 1. Furthermore, the plan to institutionalize Youth Advisory Groups (YAGs) establishes a structural mechanism for sustained youth influence within health facility governance, ensuring that adolescent voices directly inform equitable practices and promote long-term accountability.

Despite the project's strengths, the assessment uncovered areas for improvement. These include non-inclusion of researcher reflexivity in the design, a lack of clarity on how intersectional vulnerability will be analyzed in data, unclear pathways for transforming institutional policy beyond individual behavior change, and the absence of specific metrics to capture the long-term maintenance of transformed gender norms and power dynamics beyond the project's funding cycle. The recommendations below aim to address the gaps.

The strengths of the CAFFP-PAC project and the recommendations provide the foundation for guidelines to improve its gender-transformative potential. Having the four core GTR principles integrated within the implementation science models of PRISM and RE-AIM, the guidelines should provide a framework for conducting research that is reflexive, ethical, and action-oriented.

Ultimately, the successful application of these GTR guidelines will ensure that CAFFP-PAC achieves its expected results, such as improved access and reduced gender disparities, and generate vital, context-specific evidence on the processes needed to shift patriarchal norms, challenge structural inequalities in health systems, and create sustained social change in post-conflict settings like Northern Uganda. I hope that this work contributes to guiding future African-led research efforts focused on achieving genuine gender justice in Adolescent Sexual and Reproductive Health and Rights.

Recommendations for Strengthening the CAFFP-PAC Project

Based on the strategic alignment and identified implementation gaps, the following recommendations are crucial for maximizing the CAFFP-PAC project's transformative impact:

Practice Researcher Reflexivity to Ensure Transformative Practice

Although researcher reflexivity is not considered a structural transformation, it is an individual and organizational practice that enables and supports structural transformation (Blaak, 2023; Lopez et al., 2023; Rietveld et al., 2022).

Researcher reflexivity requires the research team to constantly and critically reflect on their own biases, values, and positionality throughout the study to ensure the integrity of the work (Lopez et al., 2023; Rietveld et al., 2022). Researcher biases, if unexamined, can inadvertently reinforce existing power hierarchies and oppressive practices, particularly when working with marginalized groups like adolescents (Nnawulezi et al., 2018).

To mitigate this risk, the CAFFP-PAC team should integrate critical consciousness and the "reflecting and doing" ethos into their methodological approach (Lopez et al., 2023). This means:

Acknowledging Positionality. Researchers must recognize how their background, professional status (e.g., academic experts), and cultural context influence the research questions, data interpretation, and relationship with local stakeholders (Lopez et al., 2023; Rietveld et al., 2022).

Continuous Self-Assessment. This would require the CAFFP-PAC project coordination team to implement regular team discussions (e.g., in virtual or physical learning spaces) where researchers openly question how their choices may support or hinder the project's gender-transformative goals (Lopez et al., 2023).

Prioritizing Reciprocity. The team should ensure that the research process benefits the community, not just the academic team, by actively sharing ownership of data and knowledge generated with local actors and adolescent citizen scientists (Rietveld et al., 2022). This commitment to transparency and ethical engagement is necessary to achieve social justice and equity, which are core principles of transformative research (Rietveld et al., 2022).

Enhance Measurement to Capture Relational and Structural Dynamics (Phases I&III)

Incorporate Relational Metrics. This would require the research team to supplement the KAP survey with tools designed to measure relational dynamics. This includes adapting validated instruments (like sections of the Gender-Equitable Men [GEM] scale) to assess attitudes toward power-sharing and developing qualitative indicators to track community-level stigma, fear of gossip, and the nature of trust between adolescents and service providers (Nalukwago et al., 2019).

Systematize Structural Mapping. The research team should consider conducting a formal baseline assessment of structural barriers at participating health facilities, translating the PRISM framework into a practical tool for institutional review (Fort et al., 2023). This review should audit facility design for confidentiality breaches (Kigongo et al., 2025), examine administrative policies regarding parental consent for minors, and interview health managers about resource allocation protocols for adolescent SRH (Fort et al., 2023). The review should also explore contextual understanding and application of abortion laws and examine how they affect the provision of and access to post-abortion care.

Strengthen Adolescent Engagement in the Research Process (Phase I & Beyond)

Create and Formalize Adolescent Structural Mechanisms (Youth Advisory Groups). The CAFFP-PAC team would have to ensure that the Youth Advisory Groups (YAGs) are formally

recognized by the District Health Office and participating health facilities as standing committees for continuous monitoring and feedback, fully utilizing their potential as a structural mechanism for accountability and sustained youth representation (Kigongo et al., 2025).

Promote Co-Analysis. The CAFFP-PAC core team should consider dedicating resources and time to building the capacity of adolescent citizen scientists to participate in the analysis and interpretation of baseline data. This hands-on involvement through participatory analysis workshops deeply empowers participants by shifting their role from subjects to experts, validating their perspectives, and enabling them to shape the resultant intervention model (Rietveld et al., 2022).

Ensure Co-Dissemination. In Phase III, the team should develop a participatory dissemination plan where adolescents are trained and supported to share research findings with peers, community leaders, and policymakers. This ensures that the voices of those with lived experience are central to advocacy efforts (Mullinax et al., 2018).

Widen the Scope of Transformative Engagement (Phase II)

Monitor Transformative Fidelity. The team would have to develop a process-monitoring system to track the transformative fidelity of the provider training (Principle IV). This system should use continuous qualitative observation and post-training feedback to assess if providers move beyond absorbing knowledge to genuinely changing their behavior in ways that challenge power inequities in service delivery (e.g., providing confidential and non-judgmental care).

Redefine and Measure the “Maintenance” of Transformation (Phase III)

Develop Indicators for Sustained Norm Change. This would require expanding the final evaluation beyond verifying service continuity. It includes participatory development of long-term indicators to measure the actual sustainability of transformed gender norms and power relations, drawing directly from the agreed-upon relational metrics established in the baseline phase (Backman-Levy & Greene, 2024).

Measure Institutionalization of YAGs. The core CAFFP-PAC team would have to assess the Maintenance dimension by tracking the active functioning, resourcing, and formal integration of

the Youth Advisory Groups within the health governance structure one year after project funding concludes, as this provides empirical evidence of structural transformation.

Track Spread and Scalability. As recommended in the literature, the team should evaluate the spread of the intervention by assessing whether gender-equitable attitudes and behaviors have diffused beyond the immediate project beneficiaries (e.g., in neighboring villages or non-participating schools) (Backman-Levy & Greene, 2024; Kigongo et al., 2025).

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Appendix 1: Comprehensive Guidelines for Integrating Gender Transformative Research (GTR)

Principles in the CAFFP-PAC Project

The following guidelines integrate the core principles of Gender-Transformative Research (GTR) into the Citizen Science Gender-Transformative Approach to Integrating Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC) project. These guidelines are structured according to the project phases and draw upon findings (strengths and gaps) from an analysis of how the CAFFP-PAC design aligns with GTR principles.

Preamble

Adolescent Sexual and Reproductive Health (ASRH) remains a critical challenge across sub-Saharan Africa, exacerbated by persistent issues such as high rates of adolescent pregnancy and limited access to services. Traditional development approaches have often focused narrowly on service delivery and access barriers, frequently overlooking the deep-seated structural and gender-related factors that fundamentally influence young people's health outcomes (McDougall et al., 2021; Serra et al., 2023). In Uganda, harmful gender norms rooted in a patriarchal context influence sexual and reproductive health (SRH) behaviours that lead to negative SRH outcomes, especially for girls (Lundgren et al., 2019; Nalukwago et al., 2019).

To address this gap, the global health and development community is increasingly shifting toward Gender-Transformative Approaches (GTAs), which actively examine, question, and change rigid gender norms and underlying power imbalances (Casey et al., 2018; Fisher & Makleff, 2022). The methodological foundation for this approach is Gender-Transformative Research (GTR), which is characterized by its participatory, reflexive, and action-oriented nature, ensuring that research processes contribute to social change alongside the generation of knowledge (Lopez et al., 2023; Njuki et al., 2023).

The risk in implementing GTR without clear direction is that research efforts may default to traditional, less impactful methodologies, thereby missing the opportunity to create meaningful

transformation (Mullinax et al., 2018). This gap between theory and practice necessitates structured guidance for research teams.

The project, "**Enhancing Adolescents' Sexual and Reproductive Health in Northern Uganda: A Citizen Science Gender-Transformative Approach to integrating Adolescent-Friendly Family Planning and Post-Abortion Care (CAFFP-PAC)**," is an example of the ambition to bridge theory and practice through methodological rigor.

Therefore, these guidelines have been drafted with actions for the CAFFP-PAC research team. This draft is developed through a systematic analysis, reviewing the CAFFP-PAC project design against the four core principles of GTR (Mullinax et al., 2018). These guidelines aim to maximize the CAFFP-PAC project's potential for generating rigorous evidence while actively contributing to the transformation of unequal gender power dynamics and structures in Lira, Northern Uganda.

Foundational Frameworks for Transformation

The pursuit of sustainable gender equality in development and health requires a methodological framework that actively addresses the systemic causes of inequality, moving beyond conventional approaches that often fail to challenge structural barriers (Fisher & Makleff, 2022; McDougall et al., 2021). The CAFFP-PAC project integrates the theoretical vision of Gender-Transformative Research (GTR) with the practical tools of Implementation Science, specifically the PRISM and RE-AIM frameworks. These three frameworks collectively provide an end-to-end design and evaluation strategy for achieving measurable, lasting social transformation.

Gender-Transformative Research (GTR)

GTR is, "action research that addresses the root causes of gender inequalities and creates the conditions for lasting social change at the household, community, and institutional levels and generates evidence on both the processes and outcomes" (Njuki et al., 2023, p. 208). This approach to research emphasizes participatory, reflexive, and action-oriented processes, positioning marginalized communities as co-researchers and knowledge creators (Leiva et al., 2024; Lopez et al.,

2023; Mullinax et al., 2018). GTR is has four core principles that guide research design and execution (Mullinax et al., 2018):

Grounded in Lived Experiences. Knowledge generation must center the agency and real-life experiences of those most affected by inequality, ensuring their expertise defines the research problems and solutions.

Complex Intersectional Understanding. Research must recognize how gender intersects with other social identifiers, such as age, socioeconomic status, and conflict legacy, to shape unique constraints and opportunities. This prevents oversimplified interventions.

Challenging Power at Multiple Levels. GTR requires a dedication to revealing and actively shifting power imbalances across individual, relational, institutional, and societal spheres.

Intentional Action-Oriented Design. The research must have a clear, predetermined pathway for translating findings into tangible action, advocacy, or policy changes that promote equitable outcomes.

The Practical, Robust Implementation and Sustainability Model (PRISM) Framework

PRISM is an implementation science model that is used to systematically identify multi-level contextual factors that influence intervention success (Rabin et al., 2022). It is critical for operationalizing GTR principles because it demands a deep, structured analysis of the institutional and structural drivers of inequity that GTR aims to transform (Leiva et al., 2024; Morgan et al., 2016; Mullinax et al., 2018). PRISM guides context-aware design by analyzing four key domains: 1) The External Environment (Broader political, economic, and social factors affecting the intervention), 2) Multi-level Perspectives on the Intervention (how various stakeholders, including implementers and the audience, view the program), 3) Characteristics of Implementers and Intended Audience (attributes of those delivering and receiving the intervention), Implementation and Sustainability Infrastructure (organizational and system-level factors supporting or hindering long-term uptake).

By applying PRISM, interventions are structured to address systemic barriers, examining issues such as resource access, the division of labor, social norms, and decision-making authority, thereby bridging GTR theory with practical, context-appropriate actions.

The RE-AIM Framework for Evaluating Transformative Impact

The CAFFP-PAC project will use the RE-AIM framework for project evaluation. This framework assesses the real-world impact of interventions across five dimensions: Reach, Effectiveness, Adoption, Implementation, and Maintenance (Kwan et al., 2019). When viewed through a GTR lens, RE-AIM shifts its focus from measuring only health outputs to evaluating shifts in power dynamics and structures. The RE-AIM dimensions are adapted to measure transformative success:

Reach. Assessed as equitable engagement, verifying that the intervention successfully included the most marginalized populations whose lived experiences are centered in GTR.

Effectiveness. Evaluated using an intersectional analysis of outcomes (including negative ones), ensuring the intervention benefits all subgroups and does not inadvertently widen existing disparities.

Adoption. Measures the uptake by implementing institutions (e.g., health facilities), serving as a direct indicator of successfully challenging institutional power and integrating equitable practices.

Implementation. Evaluates fidelity and quality but critically assesses whether the *process* itself was transformative by tracking changes in power relationships and decision-making among participants.

Maintenance. The ultimate indicator of structural transformation, measuring whether transformed attitudes, policies, and equitable power relations persist after external project funding concludes.

Preparatory Phase

The preparatory phase must secure the ethical, analytical, and governance structures necessary for a sustained, transformative approach. This phase centers on reflexivity, intersectional analysis, and defining the scope of change.

Guideline 1: Institutionalize Researcher Reflexivity and Ethical Commitment

This guideline ensures that the academic team's inherent power and biases do not compromise the transformative goals of the project. The basis for this is guaranteeing that the interpretations remain anchored in lived realities (GTR Principle 1) by addressing the traditional expert-community dynamic (GTR Principle 3). The guideline is informed by the gap in the CAFFP-PAC design document on the lack of clear mechanisms for the research team to continuously challenge their own biases, positionality, and assumptions throughout the project.

Conduct foundational training for the Research Team. This includes pre-study training for the research team on gender transformation, sexuality, power dynamics, and coloniality to ensure the methodology aligns with transformative goals.

Establish Regular Critical Reflection Forums. This requires the team to implement scheduled team discussions to continually question how research choices may hinder or support GTR goals. For example, the CGIAR Gender-Transformative Research Methodologies (GTRM-CoP) created mandatory spaces for researchers to critically examine how their institutional culture perpetuated gender inequalities, before co-developing new gender-centered research methods (Lopez et al., 2023). During team reflective meetings, the CoP posits the use of Mertens' recurring critical questions, such as "What is the impact of my work? Is it contributing to increased justice or supporting oppression?" (Lopez et al., 2023). This personal reflection ensures the team maintains a feminist and critical ethos.

Establish Partnership Equity Agreements. Define how resources, ownership of data, and knowledge benefits will be shared, especially given the power disparities between academic institutions and local partners (Nnawulezi et al., 2018). For example, Transformative Community-

Based Participatory Research (CBPR) often employs Memoranda of Understanding (MOUs) that explicitly define power dynamics, financial equity, and data ownership. This action addresses the GTR Principle of challenging power by preventing extractive research (Nnawulezi et al., 2018).

Guideline 2: Conduct a Community-Led, Power-Aware Inception

This guideline mandates a participatory, bottom-up design process, ensuring relevance, accessibility, and ownership by centering adolescents as co-creators (GTR Principle 1). It is informed by the completed inception phase, was deliberately community-led and adolescent-centred (Kigongo et al., 2025). A community-led inception phase is essential for GTR Principle 3 (challenging power at multiple levels) because it challenges the traditional, hierarchical power dynamics between external experts and local populations. By positioning adolescents and community members as co-creators from the outset, the inception process establishes a foundation for sustained partnership and accountability. It also ensures that subsequent research phases are grounded in locally identified priorities, thereby enhancing relevance and community ownership. The literature emphasises that such approaches not only improve the validity of findings but also contribute to empowerment by affirming participants as knowledge-holders and decision-makers. The actions included:

Implementation of Inclusive Stakeholder Engagement. The meeting involved 110 diverse stakeholders, including 25 adolescents, youth mentors, parents, health professionals, and cultural and religious leaders.

Implementation of Adolescent-Centered Methods of Engagement. To reduce power dynamics, the researchers used creative participatory methods like dialogue circles, breakout sessions, simulations, visual storytelling, role-plays, and skits, ensuring that adolescents' lived experiences directly informed the design. Scoping data on gender dynamics was collected during these activities.

Phase I: Baseline Studies and Engagement

Phase I addresses Objective 1 (To assess the baseline profile (knowledge, attitude, practices) of adolescent-friendly family planning and post-abortion care services in Northern Uganda, with a

focus on gender and intersectional disparities in Lira, northern Uganda), and Objective 2 (To engage adolescents as citizen scientists in identifying and addressing barriers to accessing and utilising family planning and post-abortion care services).

Guideline 3: Conduct a Multi-Dimensional Baseline Assessment of Power Relations and Structural Barriers

This guideline ensures that measurement goes beyond individual metrics to capture the relational power dynamics and structural barriers that constitute the lived reality of inequality (Principle 3). It is informed by an observed gap in the design showing a sole focus on Knowledge, Attitudes, and Practices (KAP) surveys. This sole focus risks measuring only individual-level changes. Failing to measure relational and structural change means the interventions risk only addressing the symptoms of inequality, while the entrenched structural root causes persist, limiting sustained change. As such, the project cannot validate its claim of achieving true gender transformation.

Integrate Relational Metrics into Baseline Instruments. The CAFFP-PAC research team should have supplemented the Knowledge, Attitudes, and Practices (KAP) survey with tools designed to measure power-sharing attitudes, intra-familial negotiations regarding healthcare access, and perceived confidentiality.

Map Structural Barriers to services. The team is expected to have conducted a baseline assessment of external contextual factors using the PRISM External Environment domain. This includes auditing facility design, examining administrative policies (like parental consent laws), and reviewing resource allocation protocols for adolescent SRH.

Apply a clear Intersectional Framework to Data Analysis. Integrate clear analytical frameworks that examine how different systems of oppression (class, ethnicity, disability, religion) interact with gender to create unique experiences of marginalization. The aim is to prevent the masking of inequities among vulnerable subgroups.

Guideline 4: Engage Adolescents (aged 10-19) as primary participants at baseline

This guideline centers participants as collaborators or co-researchers, validating adolescents as experts in their own lives (Principle 1) and challenging traditional research power dynamics. According to the design document, adolescents (male and female, aged 10–19, in and out of school, urban and rural, and teen parents) are designated as primary participants in the baseline Knowledge, Attitudes, and Practices (KAPs) surveys. Their perspectives are prioritized to provide a direct understanding of the needs and preferences of the primary beneficiaries. While this is a strength, their participation seems to be limited to providing information and interpreting it, rather than generating it. This gap is the predisposition for the guideline.

GTR and participatory action research (PAR) principles advocate for participants to be collaborators or co-researchers who meaningfully influence the research questions, collection methods, and protocol development (Njuki et al., 2023; Van Reeuwijk, 2018). If adolescents are primarily passive recipients of surveys, the research risks becoming extractive, gathering data from them rather than actively co-creating knowledge with them, thus weakening the fulfilment of GTR Principle 1 (Grounded in Lived Experiences).

Co-Creation Tools with Citizen Scientists (CSs). Dedicate resources and time during the baseline preparation phase to conduct participatory workshops where academic researchers collaborate with adolescent CSs to refine the study instruments (Ballonoff et al., 2021; Van Reeuwijk, 2018). This includes reviewing draft survey questions (e.g., the Knowledge, Attitudes, and Practices [KAPs] tools) for cultural appropriateness, ensuring the language is accessible to peers, and validating that the questions capture relevant relational and structural barriers identified in the inception phase. For example, in their study on young motherhood, Kakuru et al. (2024) trained young mothers (aged 15-19) as Youth Peer Researchers. They co-designed the data collection tools by correctly translating questions into the local language, refining wording for clarity, and adding relevant questions on stigma and SRHR product access, ensuring the KAP tool captures nuanced experiences

of adolescent motherhood. They further piloted the tools and suggested revisions, which were incorporated before deployment (Kakuru et al., 2024).

Train CSs as Co-Collectors or peer researchers. Instead of limiting adolescent involvement to receiving surveys, the research team should consider training adolescent CSs in qualitative data collection methods, such as conducting Focus Group Discussions (FGDs), In-Depth Interviews (IDIs), or employing participatory techniques (e.g., storytelling or drawing). This hands-on training empowers them by legitimizing their unique perspectives and equipping them with the technical skills necessary to become true partners in the scientific process (Chappell et al., 2014; Fortin et al., 2021), thereby building their overall capacity for social change. For example, A Youth Participatory Action Research (YPAR) project in Senegal trained adolescents to conduct SRH research, resulting in culturally appropriate and sustainable interventions, while significantly boosting the researchers' self-esteem (Fortin et al., 2021).

Integrate Reflexivity and Feedback. The coordination team should ensure that adolescent CSs participate in daily or weekly debriefing sessions during data collection. In these sessions, they should discuss field experiences, flag unforeseen barriers, and interpret preliminary data themes. This ensures continuous learning and adaptation, fulfilling the GTR requirement for "reflecting and doing" throughout the process (Lopez et al., 2023).

Establish Youth Advisory Groups (YAGs) to Center Youth Influence in Health Facility

Governance in Phase II- – This is a non-research action

Phase II: Co-Design and Implementation

This Phase focuses on co-designing and implementing a gender-transformative training program for healthcare providers. It involves translating baseline findings into an implementable intervention plan that actively disrupts norms and shares power with adolescents and communities.

Guideline 5: Center the Voices of Adolescent Citizen Scientists in Intervention Design

The guideline promotes participatory co-design of the integrated CAFFP-PAC model and training manual, primarily led by adolescent citizen scientists. By maintaining adolescent authority

throughout the co-design process, the resulting intervention and training materials will be more contextually appropriate, relevant, and trusted, enhancing dignity and ownership among the primary beneficiaries (Principle 1).

Conduct a workshop to Prioritize Bottom-up Knowledge Generation. This is the first step of the co-design process. It involves applying participatory data analysis methods, such as Data Parties and ranking exercises, to ensure that the adolescents interpret the baseline data and lead the prioritization of issues, forming the basis for the training curriculum content (Omech et al., 2024). Franz et al. (2018) define data parties as techniques used to engage stakeholders in data analysis and improve the interpretation of data from data collection processes (Franz, 2018). These scholars posit best practices for successfully conducting such parties. These include intentionally involving key partners in planning, creating engaging themes and environments that fit the participants, and providing clear data summaries and visualizations to support analysis and interpretation. Strong facilitation, well-crafted guiding questions, and appropriate group sizes ensure meaningful engagement and productive discussion of data insights (Franz, 2018).

Co-Design an Integrated CAFFP-PAC model and training manual using the World Cafe

technique – This is a non-research action

Conduct Gender Transformative Training and Supportive supervision for Health workers - -

This is a non-research action

Guideline 6 - Implement Strategies to Link Individual Efforts to Systemic Change (such as formalizing YAGs, the Training manual, etc) – This is a non-research action guideline

Guideline 7 - Integrate Transformative Fidelity Measurement into Implementation

This guideline mandates monitoring of transformative change. It stems from the gap found on unclear indicators for actively monitoring the fidelity of the gender-transformative components of the health provider training. Transformative change relies on shifting the internal power dynamics and achieving relational accountability. This means that health care providers commit to non-judgmental, confidential, and respectful care beyond simply following a checklist (Van Eerdewijk et

al., 2017). If success is only measured by training completion (output), the key structural constraint to access, provider stigma, will persist, rendering the intervention gender-accommodating, not gender transformative (Miller et al., 2022).

Institutionalize reflective processes for Providers. Integrate ongoing reflexive practices into the post-training mentorship phase, such as monthly peer learning meetings or community scorecards, which involve adolescents providing confidential feedback on provider attitudes and confidentiality practices. There is evidence from a study in Kampala to show that VCAT training, particularly in SRHR, can improve provider attitudes, but this change must be reinforced by continuous reflexive practice and systems-level accountability to ensure it is sustained over time and results in quality, rights-based care (Kayondo et al., 2023).

Co-design tools for Relational Observation and Feedback Loops. Collaborate with Youth Advisory Groups (YAGS) to design structured observation tools or confidential client exit interviews on the practice of non-judgmental care and adherence to confidentiality protocols. The tools should also monitor changes in relational power, such as observed shifts in adolescent-provider interactions (Mullinax et al., 2018).

Facilitate the Implementation of tools. Empower the YAGs to implement the tools at regular intervals post-training (e.g., 3 and 6 months) and apply participatory methods to co-analyze the findings.

Phase III: Evaluation and Dissemination

The evaluation phase measures systemic, structural change, and the dissemination must be intentional and action-oriented to maximize transformative utility. This Phase addresses Objective 4 - To evaluate the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) of integrated services in improving sexual and reproductive health outcomes among adolescents; and Objective 5 - To document and disseminate best practices and lessons learned from the implementation of the gender-transformative approaches.

Guideline 8: Implement Participatory Evaluation and Interpretation of Operational Sustainance, as well as Relational and Structural Transformation (Obj 4)

This guideline ensures meaningful participation of adolescents in the evaluation process, which is not articulated in the design document. As at baseline, a participatory process ensures that it is not primarily academic-led and that the measures of success align with identified gender disparities at the inception and baseline phases. This guideline operationalizes the evaluation of the existence of services (Maintenance) and the sustained relational quality between providers and adolescents (the long-term fidelity of the Value Clarification and Attitude Transformation (VCAT) intervention). As observed at baseline, this analysis at the design level seems to be focused only on service delivery (operational attribute). Measuring transformation requires validating shifts in deeply ingrained patriarchal norms (Principle 3), moving past superficial changes (KAPs) to the actual drivers of lasting GTR impact, such as confirming the transformation of agency and relational accountability (McDougall et al., 2021). By utilizing mixed methods, the project provides evidence to demonstrate how implementation in Phase II, shifted power dynamics.

Hold a Participatory workshop. This will require involving citizen scientists and community members in workshops to collectively define what "transformative change" looks like and to establish the key indicators of success grounded in their own experiences. Specifically, participants will develop metrics within the Effectiveness and Implementation domains of evaluation. These should probe adolescents on the quality of their interactions with providers (e.g., perceived non-judgment, shared decision-making, respect) – Note that metrics should align with those at baseline. For example, in Fiji and the Solomon Islands, empowering communities to develop their own measures of gender equity made the monitoring process a tool for empowerment itself, rather than just data collection for external researchers (Rietveld et al., 2022).

Develop and Implement GTR among Health Workers. This requires designing qualitative instruments targeting relational change in the Maintenance component of RE-AIM, such as longitudinal tracking of provider willingness to actively challenge institutional stigma or community

norms (Miller et al., 2022). For example, the SASA! program in Uganda, designed to reduce intimate partner violence, measured transformation by both individual behavior and by the sustained adoption of norms across the community after three years, using measures that captured institutional changes and community attitudes toward intervention (Backman-Levy & Greene, 2024). This process of measuring long-term community-level maintenance confirmed the structural change necessary for GTR (Principle 3).

Measure YAGs integration. The core CAFFP-PAC should consider assessing the Maintenance dimension by tracking the active functioning, resourcing, and formal integration of the Youth Advisory Groups within the health governance structure one year after project funding

Guideline 9: Adopt Analytical Methods to Measure Intersectional and Differential (Obj 4)

At baseline (Phase 1), the design document does not articulate any intersectional analytical framework during this phase, yet it focuses on equity in Objective 4. This guideline addresses this gap at the Evaluation phase, moving beyond aggregate metrics. The evaluation process will unmask continuing inequities among the most vulnerable subgroups through systematic analysis of how overlapping inequalities (e.g., age, poverty, disability, and rural location) created differential impacts on Reach and Effectiveness (Fehrenbacher & Patel, 2020). For example, a finding of increased contraceptive uptake may mean that the increase was concentrated only among literate urban adolescent girls. This finding may miss the low uptake of the rural, disabled peers if an intersectional lens is not adopted.

Conduct Intersectional Analysis – The CAFFP-PAC team should develop and implement an Intersectional Subgroup Analysis framework of quantitative outcome data (Effectiveness and Reach).

Guideline 10: Institutionalize Participatory Interpretation of Final Evaluation Findings

This guideline strengthens community ownership by furthering the continuity of citizen science engagement into the dissemination process, involving adolescent citizen scientists and community stakeholders in the interpretation and framing of final results and policy

recommendations. The guideline addresses the non-articulation of participatory interpretation in the design document. Excluding adolescent citizen scientists and community stakeholders from interpreting the final RE-AIM data and drafting lessons learned undermines GTR Principle 1 by risking misrepresentation and reinforcing traditional, hierarchical power dynamics where the academic voice maintains ultimate authority over community-generated knowledge. Additionally, academic publications, a key output for researchers, often remain inaccessible to community participants, which reinforces knowledge hierarchies, limiting community ownership of knowledge. Institutionalizing participatory interpretation ensures that the knowledge generated is grounded in the lived experiences of women and girls, ensuring shared ownership and accountability for the findings.

Conduct a participatory dissemination workshop. Like at baseline, this requires the research team to conduct a data party workshop where quantitative and qualitative results (Reach, Effectiveness, Maintenance data) are presented back to citizen scientists and community leaders for validation and co-analysis, explicitly asking them to contextualize successes and emergent challenges.

Participatory design. The core CAFFP-PAC team should consider co-creating diverse dissemination products with citizen scientists, such as radio dramas, local language posters, and short videos. Ensure adolescent citizen scientists are credited as co-authors on all relevant publications to validate their expertise (Mullinax et al., 2018).

Annex 2: A Reflection on Implications of Implementing Guidelines for the CAFFP-PAC Project

Timing and Phase-Specific Application

Annex 1 presents draft operational guidelines structured across four project phases: Preparatory, Phase I (Baseline Studies and Engagement), Phase II (Co-Design and Implementation), and Phase III (Evaluation and Dissemination). Given that the inception and baseline phases have already been completed, the guidelines operate as a forward-planning tool rather than a preventative framework. The implications are most urgent for Phase II (Co-Design and Implementation, January-December 2026) and Phase III (Evaluation and Dissemination, January-March 2028), where the project team can still actively integrate the recommendations.

Additionally, I opine that integrating comprehensive guidelines at this stage may require additional capacity and resources. The CAFFP-PAC research team may need to consider accelerated training in some techniques, such as intersectional analysis, reflexivity practices, or any other, to operationalize guidelines, especially those that were informed by gaps in design. Therefore, I re-echo that the team should be involved in co-interpreting and contextualizing the guidelines rather than simply adopting them wholesale.

Research-Implementation Interface Challenges

The guidelines were intentionally developed for research components, specifically knowledge generation, methodological design, analysis, and ethical dissemination, rather than operational implementation activities like training health workers or establishing Youth Advisory Groups. This focus creates an opportunity that researchers on the CAFFP-PAC team to maintain methodological fidelity, especially in data collection and analysis. However, there is an apparent risk that the non-transformative component will dilute the transformative intent of the project. I therefore hold the view that comprehensive guidelines should be developed to ensure gender-transformative research and gender-transformative interventions or approaches (for non-research components).

Measurement and Evaluation Gaps

The guidelines recommend supplementing Phase I (baseline) and Phase III evaluation with relational metrics, such as household decision-making power in healthcare choices, community-level stigma perception, and trust between adolescents and providers. Without implementing these recommendations before Phase III data collection design is finalized (considering that the baseline is completed), the evaluation cannot validate the project's core transformative claims, regardless of how well the intervention is executed.

Researcher Reflexivity as Foundational Practice

The guidelines underscore that researcher reflexivity is foundational to GTR. This implies that the CAFFP-PAC research team should quickly consider institutionalizing critical reflection practices before Phase II.

Conclusion

In sum, the operational guidelines in Annex 1 offer a timely roadmap for strengthening the CAFFP-PAC project as it moves into Phase II (Co-Design and Implementation) and Phase III (Evaluation and Dissemination), the stages where the remaining recommendations can still be operationalised. However, they are presented as a draft and would require contextualization through a participatory process before they are translated into practice. Additionally, I posit that comprehensive guidelines be developed to include non-research activities to reduce the risk of diluting the transformative intent of the project by conventional implementation approaches. Similarly, the team should also consider collecting baseline data on relational and structural attributes to further validate gender transformative change at the Evaluation stage. Finally, integrating researcher reflexivity as a routine practice will safeguard the integrity of the gender-transformative research process and ensure that the project's actions remain aligned with its core GTR principles.