Understanding trends, transitions & perceptions of fertility and family planning in a fragile context: South Kivu, Democratic Republic of Congo

Inauguraldissertation
zur
Erlangung der Würde eines Doktors der Philosophie
vorgelegt der
Philosophisch-Naturwissenschaftlichen Fakultät
der Universität Basel

Von
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Basel, 2020

Genehmigt von der Philosophisch-Naturwissenschaftlichen Fakultät auf Antrag von
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Basel, 12. Dezember 2017

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Abbreviations

ANC	Antenatal care
BMGF	Bill and Melinda Gates Foundation
CCT	Conditional cash transfer
DHS	Demographic and Health Survey
DRC	Democratic Republic of Congo
FCHW	Female community health workers
FP	Family planning
ICPD	International Conference on Population and Development (Cairo)
IDP	Internally displaced person
LAC	Latin America & the Caribbean
LMIC	Low and middle income country(ies)
MONUSCO	Mission de l'Organisation des Nations Unies pour la Stabilisation en République Démocratique du Congo (Mission of the Organization of the United Nations for Stabilization in the Democratic Republic of Congo)
MWH	Maternity waiting home
PAA	Population Association of America
PBF	Performance-based financing (also known as Results-based financing)
PNC	Post-natal care
SE	Side effects
SRH	Sexual and reproductive health
SRHR	Sexual and reproductive health and rights
SSA	Sub-Saharan Africa
STI	Sexually transmitted infection
TBA	Traditional birth attendant
TFR	Total fertility rate
TFR	Total fertility rate
UN	United Nations
US	United States
UCT	Unconditional cash transfer
WHO	World Health Organization

Acknowledgements

The past four years have encompassed the most profound journey I have experienced and perhaps ever will. My doctoral work – from the field to the office, from the shores of Lake Kivu to the banks of the Rhine – facilitated my growth as not only a professional but also a person, a world citizen and an activist in ways I never thought possible.

My deepest and most sincere thanks go first to my supervisor Dr Sonja Merten for hours and hours of time and energy invested in my well-being and success not only as a student and researcher but also as a mentee and friend. I will forever consider myself incredibly lucky to have worked with such an intelligent, insightful, versatile and dedicated researcher. I was given the perfect balance of freedom in the last years to explore and learn on my own while also being gently guided from the wealth of experience Sonja brings to her and others' work. The integrity with which Sonja carried out her work also left a deep impression. For her trust and confidence in me, her dedication, her mentorship and friendship I am forever grateful and would not have evolved as a researcher and person as much as I did without her guidance, enthusiasm and encouragement.

A very special thanks goes to the members of my committee: Prof Dr Marcel Tanner, Dr Lenore Manderson, Dr Judi Aubel and Ms Annie Portela. Each of these individuals gave hours of their time over the last four years to offer constructive feedback on data, writing and analysis as well as steady encouragement and support. I am very thankful for all you have done to contribute to this work of which I am very proud. Thank you too to Dr Jakob Zinstag for agreeing to chair my defense. I am honored to have a chair who is engaged and dedicated to his students and brings an incredible enthusiasm and passion to interdisciplinary work and collaboration. Also to Dr Ghislain Bisimwa, our research collaborator and advisor in South Kivu, your efforts in facilitating this research are much appreciated and your feedback on publications has been very useful.

This work and these contributions to the fields of sexual, reproductive and maternal health would not have been possible without the countless women and men in the towns and villages of South Kivu who so generously gave their time to our research teams and me. This milestone in my professional career is dedicated to the individuals who contributed their perspectives, stories, experiences and opinions to my research and analysis. Even at the end of my three years of field work, I was still astounded by the willingness, kindness and openness with which my teams and I were received in the field, welcomed into homes and treated with care and concern. I sat with some participants for hours, incessantly asking questions, entering into their most intimate personal and physical spaces. The DRC is many hard and challenging things,

but it is also a place of joy, energy, beauty, caring, love and the most impressive hustle I will ever encounter! I met some of the strongest and kindest people in my life in the DRC and I am privileged to know this corner of the world as home and call many, many people there family.

My South Kivu family is too extensive to list here as literally hundreds of people contributed to this work and, more than colleagues, I now consider true friends. Some people deserve special recognition: first and foremost Dr Wyvine Bapolisi, my fellow and true 'femme de terrain.' I arrived in South Kivu in 2014 a naïve American despite years of experience in sub-Saharan Africa. My success is due in great part to your guidance and patience and friendship. I again was given gift when we were brought together as research partners. The more I learned about you, your genuine kindness, your willingness to give of yourself – sometimes to the point of absolute exhaustion – for others and the profound respect so many in Bukavu have for you and your wonderful family, the more I knew that I was privileged to call you a colleague and now, I can truly say, Dada. This was perhaps most poignantly illustrated when you spent the night on the floor of my hospital room when I was sick in Bukavu, making sure I received the best medical care possible, even after completing your own shift at the hospital as a doctor! I cannot tell you how many warm and wonderful memories I have of time spent with your family…even when you were in Basel and I was in Bukavu! Asante, Wyvine, for being such an important and supportive person along the road to this accomplishment. I am ready and willing to do absolutely anything I can to support you in the ways you did me as you embark on this most important and affirming journey of your own doctoral work.

A mon dada, Marie-Chantale Mwamini : Les circonstances qui nous ont mis ensemble ont été sans doute un cadeau de l'Univers. J'ai même pas les mots pour dire comment il a été un privilège de travailler à côté d'une femme forte, intelligente, gentille, dévouée et discrète comme toi. La plupart de mon travail sur le terrain, surtout ma recherche qualitative, a été un sucés à cause de toi. Tu m'as apprise tant de choses et tu m'as donnée une motivation et un enthousiasme qui sont évidents dans les pages qui suivent. Je n'oublierai jamais les expériences incroyables qu'on a vécu ensemble, les blagues qu'on a partagées sur le terrain. Koko, Dada!

To my family: Mom, Dad and Julie. I have had your support for as long as I can remember and I could never in words or actions express my gratitude for what you have done for me, the ways in which you have supported me, defended my choices and dreams and made me the person I am today. It has been very hard at times to be so far away, to be in dangerous places, to miss family events and only see you a few times each year. I thought of you every day, I spoke of you all over the world with pride and I felt your love and best wishes no matter where

I was. I cannot tell you how many times over the last years people told me ‘you must come from a good family’ – I come from the very best! I am truly humbled by your love. From basketball games to my dissertation defense, you have always been there. Each of my successes is also yours.

Especially to my kind, inspirational and all-around wonderful sister Julie: you may never know how important you are to me. Being your sister is the best gift life has given me. You inspire me and you inspire countless others with your warmth, genuine concern and the ways in which you go through the world, never judging and always doing the right thing. It has been so hard to be away these last years but I have absolutely treasured the moments we spent together since I began this journey. So much of this dissertation came together during cozy weeks spent in Charlotte – I will hold onto those special times spent together forever. While I may at times have felt far away I never felt distant – we always managed to stay connected even when I was on an island in central Africa without electricity. It is a such a privilege and point of pride to call you my sister and I look forward to our relationship continuing to evolve and grow as we both move on to new adventures.

To all of my colleagues at Swiss TPH both in Basel and abroad, from our unit and department to our colleagues at SCIH, from Human Resources to IT, from Bukavu to Kigali – everyone who makes the Institute run in the efficient ways that it does with a kindness that goes above and beyond is a part of this work as well. A very special thanks to the EPH travel office – Dagmar and Laura – for going through so much to get my DRC visas even when it was difficult; also, to Nora, for your fantastic organization, efficiency and kindness, you made my field work possible.

Lastly – and by absolutely no means least – my friends in every corner of the world.

JD you deserve special recognition for the intellectual inquiry, critical faculties and passion for the endless pursuit of justice through scholarly and tangible engagement you sparked in me at a young age; your continued support and unwavering conviction and encouragement that I would one day end exactly here has meant so much. I am very proud to now call you a colleague.

If I were to list everyone in Basel and Zurich who contributed to and supported me in this work I would go on for another 100 pages. I was so very lucky to have met wonderful, inspiring and caring people over the last years who I can now call true friends – each of you knows who you are. Joelle, Sofie and Nerina get my special thanks for being so directly involved in my thesis

process, helping and supporting me in so many ways with patience and kindness (and wine) especially these last months.

My network of family, friends, support and love stretch across oceans and continents – Pittsburgh, Weirton, Erie, Wellsburg, Wycoff, Charlotte, London, Richmond, Dakar, Bukavu, Toronto, Naples, Sydney, San Francisco, Buenos Aires, Chicago and beyond – the people I find in these places are my foundations and inspirations. I was also cheered on by a good percentage of the Delta Airlines Atlanta-based flight attendant family – always having a DL Sky Mom nearby is the greatest gift!

It overwhelms me to think of the support and love that poured in, the patience and the encouragement at so many stages over the last four years and all of the years it took me to get here. Each of you is in this work. I am forever grateful and try my best to pay the love and kindness forward at every chance I have.

Funding

Funding for research activities related to this dissertation came from the *Catholic Organization for Relief and Development Aid* (CORDAID) – The Hague in conjunction with research activities related to the Conditional Cash Transfer program evaluation.

Additional funding for analysis and write up was generously provided by the *Freiwilligen Akademischen Gesellschaft* (FAG) Basel, the PhD Program in Health Sciences (PPHS), University of Basel and the R. Geigy Foundation.

I am very grateful for the support of these organizations and programs; without their support this work would not have been possible.

Summary

This dissertation research began with an evaluation of a conditional cash transfer (CCT) program to encourage women to practice prolonged birth spacing in a health district of South Kivu province, eastern Democratic Republic of Congo (DRC). CCTs are increasingly implemented as maternal health behavior change strategies in developing countries however the efficiency and ethics of attaching health behavior conditions to cash payments in poor contexts are the source of ongoing scholarly and programmatic debates (Hunter et al. 2017, Voigt 2017, Krubiner and Merritt 2017). The ethical questions surrounding the approach and the rarity of CCT programs with reproductive aims as their primary outcomes (Khan et al. 2016) generated several questions for exploration which eventually formed the research questions of this dissertation. My research objective was to explore conceptions, norms and perceptions of reproduction and fertility in South Kivu province in order to fully understand the dynamics within which reproductive lives in South Kivu are realized.

On the global level, reproduction in South Kivu is situated in politically-charged discourses of health, rights, population control and global governance. Through an in-depth, mixed methods study of fertility and reproductive trends, as modern contraception and new fertility norms are injected from the outside and increasingly absorbed into the socio-cultural context of South Kivu, this doctoral thesis aims to illustrate that reproduction is an evolving *social* process profoundly influenced by but also an instigator of socio-cultural, economic, political, health and personal lived realities and change.

Research for this dissertation took place in an exceptional context. More than two decades of violent conflict and political instability have profoundly affected life in South Kivu and much of the vast country. Over the last 20 years more than 5 million lives are estimated to have been lost to violent conflict and its repercussions such as the hardships of displacement, inadequate infrastructure (water, sanitation) and failed health systems (Glass and McAtee 2006, Stearns 2011). In 2016, 3.7 million Congolese were registered as internally displaced, the highest number of internally displaced persons registered in the world (Wambua-Soi 2017).

While DRC has exceptionally high rates of antenatal care attendance (85.5%) and facility births (74.0%) compared to other sub-Saharan African (SSA) settings (South Kivu province even higher at 95.8% and 92.6% respectively), the DRC has one of the top maternal mortality rates in the world (693 deaths / 100,000 live births) (WHO 2015). These seemingly contradicting numbers point to a lack of timely or financial access to paid maternal health services and/or poor quality services (Gabrysch and Campbell 2009). While contraceptive services are now available in South Kivu and more than 90% of rural women and men in DRC could name at

least one method of contraception, contraceptive uptake of any method remains particularly low in South Kivu (13.2%) and total fertility rate (TFR)[1] one of the highest in the world (7.7) (DHS 2014).

To investigate research questions we employed a mixed-methods approach including a two-point longitudinal survey and in-depth interviews, informal interviews and participant observation in the research settings. The longitudinal survey was administered to women 15-49 years old regularly residing in one of twelve randomly selected villages in Idjwi, Miti Murhesa and Katana health districts of South Kivu province, DRC. Electronic tablets were used to collect survey data which included information on participant socio-demographics, household and individual assets, decision making, maternal health service use, perceptions and uptake of family planning, socio-cultural values and knowledge of/participation in different demand-side maternal health interventions active in some of the study areas. 783 women were interviewed in the first round of data collection; 576 women were located and interviewed in the second round with 465 records matched between the two survey rounds.

The qualitative component of this study aimed to gain a comprehensive and in-depth understanding of women's multi-faceted realities in the research context, especially as they related to fertility, reproduction and contraception. Qualitative work took place in all three health districts included in the quantitative component of the study though the majority of in-depth interviews were from Idjwi and Miti Murhesa. Purposive sampling was used to recruit 78 total participants in communities and health facilities, including maternity waiting homes. Most were women with at least one pregnancy, ranging in parity from first pregnancy up to thirteen children. Interviews were also conducted with women who gave birth at home, older women, traditional birth attendants, husbands, health workers, health administrators and religious leaders. Participant observation also occurred in villages, religious services, community family planning sensitization sessions, CCT payments, and various health services. Data analysis was inductive, rooted in the principles and processes of grounded theory (Charmaz 2014).

Chapter 1 sets the stage for a comprehensive exploration of the research questions, describing global fertility trends, including 'exceptional' trends observed in SSA, as well as historical perspectives and development of fertility transition theories which seek to explain these trends from different theoretical assumptions and empirical determinants. In Chapter 2 the evolution of global sexual and reproductive health (SRH) discourses is traced, accompanied by a brief review of findings in SSA on determinants of and barriers to contraceptive use and different SRH interventions implemented across SSA contexts. Chapter 3 introduces the history,

[1]Average number of children a woman can expect to have in her lifetime

politics, socio-cultural and health context of the research settings especially as they relate to fertility and reproduction. Chapters 4-8 outline specific research aims, guiding theoretical frameworks, research and analytical methods and my critical appraisal of my research process and my positionality as a researcher.

Using diverse analytical methods the core chapters of the thesis build a comprehensive narrative of fertility and reproduction in South Kivu, embedding results in the particularities of the research context. Chapter 9 details the CCT intervention and program evaluation protocol and Chapter 10 discusses the effect of CCTs on birth spacing and uptake of family planning. Chapter 11 captures the nuances of the determinants of contraceptive use with a quantitative analysis, framing contraceptive uptake as a continuum of behavior change rather than the standard dichotomous SRH measure of contraceptive uptake that only frames individuals as contraceptive users or non-users. Chapters 12 and 13 use inductive analyses to locate experiences of contraceptive side effects, consistently identified in existing literature as a major 'barrier' to contraceptive use, and fertility and reproduction more generally in the multiplicity of influences that define individuals' and couples' lived circumstances. The concluding chapter discusses the conceptual framework I derived from collective results of analyses and gained knowledge of the research context, illustrating how fertility, reproduction and family planning are embedded in a constellation of actors, influences, power dynamics and mutually-constitutive and dynamic factors.

This research contributes to a growing body of interdisciplinary, health social science literature which embeds reproduction, fertility and contraceptive technologies into socio-cultural processes. From a number of angles and perspectives this dissertation shows how the social-embeddedness of fertility is manifested in practice and lived reality in South Kivu: the introduction of contraceptive technologies into this context has altered and shifted power dynamics and possibilities while also raising new socio-cultural and broader political questions, concerns and uncertainties.

Rather than simplifying reproductive realities in South Kivu this work accomplishes the very opposite: rousing and highlighting the complexities underlying, moving, shaping and influencing fertility, family planning discourse and contraceptive use. Making the complexity of reproductive navigation explicit is one of the most relevant contributions this dissertation makes to the fields of applied health social science and SRH research. Findings form a coherent narrative of fertility, reproduction and family planning in South Kivu which reveal a conceptual framework illustrating where reproduction, fertility and family planning are embedded at the intersection of four conceptual categories of factors and related actors: *the*

individual (women and men of reproductive age, individual members of kinship networks who stand to benefit from another's fertility, health providers and religious leaders); *society, community and relationships* (conjugal and sexual partners, kinship and social networks); *institutions* (the State, the health system, religious communities and doctrines); and *the broader context* (political climate, environment and land, safety and security). These categories are interconnected and mutually constitutive but also fluid and dynamic. Throughout an individual's reproductive life course each actor, institution or factor will play larger or smaller roles in reproductive preferences, the realization of reproductive outcomes and the ways in which family planning, in particular modern contraception, shape those preferences and actions.

While gendered power dynamics were the most explicitly identified power dynamics in this context, other dynamics such as hierarchical positions in kinship networks, communities or various institutions also play a significant role in the realization of reproductive lives. Analysis across research questions revealed that three main factors are underlying fertility preferences and reproductive actions including the use of modern contraceptive methods: *uncertainty*, *risk* and *contingency*. These concepts are at once distinct, influential factors and mutually constitutive, each reinforcing the manifestation, magnitude and reproduction of the other.

From a Public Health perspective, fertility, reproduction, family planning and contraception sit at the intersection of health, rights and gendered and global power dynamics, the framing of which has far reaching implications for local and broader global health discourses, strategies, outcomes and justice movements. A reproductive justice lens which broadens the priorities of SRH domains and aims to empower individuals, couples and communities within ecological models of change could facilitate a drastic and positive shift in the SRH field towards achieving more positive reproductive outcomes and facilitating the realization of reproductive rights, especially for historically marginalized and vulnerable populations.

1. Introduction

This dissertation research began with an evaluation of a conditional cash transfer (CCT) program to encourage women to practice prolonged birth spacing in a health district of South Kivu province, eastern Democratic Republic of Congo (DRC). From 15-27 months post-partum, the intervention offered women cash payments for every three months they did not have a subsequent child (see Chapter 9). Our research team played no role in program development or implementation but was charged with evaluating the effect of the conditional payments on women's birth intervals (primary outcome) and uptake of family planning (secondary outcome). CCTs are increasingly being implemented as maternal health behavior change strategies in developing countries however the efficiency and ethics of attaching health behavior conditions to cash payments in poor contexts are the source of ongoing scholarly and programmatic debates (Hunter et al. 2017, Voigt 2017, Krubiner and Merritt 2017). Given the historically charged and intimate nature of fertility, power dynamics and coercive reproductive politics, especially in developing countries and vulnerable populations, any incentive programs to influence reproductive decisions tread on sensitive ground (see Chapter 2). A recent review of the effect of conditional and unconditional cash transfers on family planning identified only one study from India with birth spacing as a primary outcome (Khan et al. 2016). To our knowledge the CCT program we evaluated in South Kivu is the only documented CCT program in SSA with birth spacing as a primary outcome.

The CCT program in South Kivu is a unique example of how western fertility discourse inserted into a SSA context. While the main outcome of the program was birth intervals, the use of modern methods of contraception to do so was highly promoted. The ethical questions surrounding the approach and the rarity of programs of this type generated several questions for exploration which eventually formed the research questions of this dissertation. I was interested in understanding how the assumptions of actors who develop health and development interventions are reflected in program design and implementation. What are the main tenets of contemporary global sexual and reproductive health (SRH) discourse? Do the foundational assumptions of western SRH programs in SSA reflect fertility theories and global SRH discourse? How do SRH programs 'fit' (or not) the lived realities of women and men who are the targets of these programs? From these initial questions stemming specifically from the CCT intervention I formulated a broader research objective to explore conceptions, norms and perceptions of reproduction and fertility in South Kivu province in order to fully understand the dynamics within which reproductive lives in South Kivu are realized. I approached reproduction in this high fertility, fragile context through the particular lenses of power dynamics, determinants of contraceptive use and discourse of current global and local family planning

initiatives. These explorations are situated against the backdrop of fertility transition theories as well as colonial histories of reproduction.

Research for this dissertation took place in an exceptional context. The DRC and South Kivu province in particular are dynamic and complicated settings of troubling conflicts and puzzling contradictions. More than two decades of violent conflict and political instability have profoundly affected life in South Kivu and much of the vast country. Political uncertainty and chaos reign the national and regional political stages. The DRC's current president, Joseph Kabila, has led a transition government since 2001 and refuses to hold national elections which were scheduled for 2016. Political repression has increased and civilian protests over the last years have often ended in violence (Burke 2016, Al Jazeera 2017).

Over the last 20 years more than 5 million lives are estimated to have been lost to violent conflict and its repercussions such as the hardships of displacement, inadequate infrastructure (water, sanitation) and failed health systems (Glass and McAtee 2006, Stearns 2011). In 2016 3.7 million Congolese were registered as internally displaced, the highest number of internally displaced persons registered in the world (Wambua-Soi 2017). In and around the areas where research for this dissertation took place extreme acts of violence committed against civilians by other civilians, armed groups and the Congolese armed forces (*les Forces Armées de la République Démocratique du Congo (FARDC)*) occurred over the last several years alone (described in detail in Chapter 3) (Wolfe 2015, 2016, Kyalangalilwa 2014, Essa and Wembi 2017).

In addition to constant security threats, local and national government and health systems' abilities to serve population interests are weak (see Chapter 3). For example, very little government money is invested in the health sector (Fox et al. 2013). While DRC has exceptionally high rates of antenatal care attendance (85.5%) and facility births (74.0%) compared to other SSA settings (South Kivu province even higher at 95.8% and 92.6% respectively), the DRC has one of the top maternal mortality rates in the world (693 deaths / 100,000 live births) (WHO 2015). These seemingly contradicting numbers point to a lack of timely or financial access to paid maternal health services and/or poor quality services (Gabrysch and Campbell 2009). While contraceptive services are now available in South Kivu and more than 90% of rural women and men in DRC could name at least one method of contraception, contraceptive uptake of any method remains particularly low in South Kivu (13.2%) and total fertility rate (TFR)[2] one of the highest in the world (7.7) (DHS 2014).

[2]Average number of children a woman can expect to have in her lifetime

To set the stage for a comprehensive exploration of the research questions I first describe global fertility trends including 'exceptional' trends observed in SSA. I then review historical perspectives and development of fertility transition theories which seek to explain these trends from different theoretical assumptions and empirical determinants. In Chapter 2 I trace the evolution of global SRH discourses which could be reflected in the different assumptions employed by actors developing SRH interventions such as the CCT strategy in South Kivu. I also briefly review scholars' findings in SSA on determinants of and barriers to contraceptive use and different SRH interventions implemented across SSA contexts with specific attention to interventions in the study areas. Chapter 3 introduces the history, politics, socio-cultural and health context of the research settings especially as they relate to fertility and reproduction. Chapters 4-8 follow, outlining specific research aims, guiding theoretical frameworks, research and analytical methods and my critical appraisal of my research process and my positionality as a researcher.

Using diverse analytical methods the core chapters of the thesis build a comprehensive narrative of fertility and reproduction in South Kivu, embedding results in the particularities of the research context. Chapter 9 details the CCT intervention and program evaluation protocol and Chapter 10 discusses the effect of CCTs on birth spacing and uptake of family planning. Chapter 11 captures the nuances of the determinants of contraceptive use with a quantitative analysis, framing contraceptive uptake as a continuum of behavior change rather than the standard dichotomous SRH measure of contraceptive uptake that only frames individuals as contraceptive users or non-users. Chapters 12 and 13 use inductive analyses to locate experiences of contraceptive side effects, consistently identified in existing literature as a major 'barrier' to contraceptive use, and fertility and reproduction more generally in the multiplicity of influences that define individuals' and couples' lived circumstances. The concluding chapter discusses the conceptual framework I derived from collective results of analyses and gained knowledge of the research context, illustrating how fertility, reproduction and family planning are embedded in a constellation of actors, influences, power dynamics and mutually-constitutive and dynamic factors.

1.1 Locating fertility & reproduction in sub-Saharan Africa

Individuals, couples and families realize their reproductive lives within wider socio-cultural norms and institutions all the while considering their personal parameters and desires. The study of human reproduction is multi-faceted, spawning disciplines of different actors with varying motivations, questions and aims. They attempt, for example, to comprehend the influence of fertility on local economies, migration patterns, armed conflicts, environmental degradation, or health outcomes. To shed light on the linkages and causal pathways between

these factors with fertility, demographers and social scientists investigate why people as populations and individuals as 'autonomous' units have the children that they have when and with whom they have them, forming the families and kinship networks that in turn are the constellations of whole, radically diverse socio-cultural identities, societies and ways of life. Fertility as such is not only a personal decision, but is inherently linked with social, economic, and political fabric. Reproduction is a site of confrontation and negotiation between power and oppression, the individual and the collective, the local and the global; in these ways, reproduction is inherently gendered, political and is implicated in wider struggles for justice (Ginsburg and Rapp 1991, Greenhalgh 1995, Hartmann 1995, Hartmann 2016).

Patterns of reproduction have varied greatly over time, place and people (Lesthaeghe et al. 1981, Ginsburg and Rapp 1991, Greenhalgh 1995). Reproductive norms and related behaviors are often rooted in obfuscated colonial or coercive histories, can evolve gradually in the wake of a myriad of circumstances and can change quickly, in sudden response to acute crises (Schneider and Schneider 1995, Hynes et al. 2002, Hill 2004, Hunt 1999, Kaler 2003, Nichter 2008). Many populations in South Kivu, for example, fled violent conflict and lived, or continue to live, displaced in their own country (Stearns 2011). Some of these displacements were short interruptions to daily life, while others, two decades on, have become daily life; both situations will have affected the factors surrounding fertility and reproduction from livelihood generation to access to health services, infrastructure and education to marriage patterns, future prospects and individual fertility desires. Other local households and communities not displaced by the contextual situation still feel the fallout of prolonged political instability, institutional inadequacies and regional violence which can also impact fertility preferences.

To understand if and how the assumptions of fertility theories fit these and other lived reproductive realities of South Kivu, the following chapter first explores global fertility trends and the evolution and multiple perspectives of fertility theory which attempt to capture the varying determinants of reproductive behavior across and particular to different contexts.

1.2 Global fertility transitions in numbers: the 'conundrum' of sub-Saharan Africa

The field of demography has attempted to document and theorize fertility patterns for most regions of the world. The Industrial Revolution marked a major shift in Northern demographic history as economic production increased, social conditions improved and mortality declined throughout much of Europe and North America (Greenhalgh 1995). With some exceptions (Schneider and Schneider in Greehalgh 1995), a subsequent population boom for several decades was followed by lower fertility preferences and the advent of conscious planning of

smaller families across much of the global North by the latter part of the 19th century, mostly through the use of withdrawal and abstinence but also abortion (Shorter 1973, Bridenthal 1979, Santow 1995 in Johnson-Hanks 2002). In the second half of the 20th century hormonal contraception became more widely used and fertility rates decreased to their current levels. In 1960 the TFR in high income countries was 3.0 children per woman; by 2015 that number dropped to 1.7 (World Bank 2016).

Other regions of the world including Asia, Latin America and the Caribbean (LAC) and SSA followed decidedly different patterns than the global North. **Table 1.1** shows markedly different TFRs by region in 1960 and 2015.

Table 1.1 Total fertility rate by world region: 1960/2015

Region	TFR 1960	TFR 2015
World	5.0	2.5
Global North		
Europe	2.6	1.6
North America	3.7	1.8
Global South		
Latin America & Caribbean	6.0	2.1
Middle East & North Africa	6.9	2.9
South Asia	6.0	2.5
Sub-Saharan Africa	6.6	4.9

(World Bank 2016)

As these numbers demonstrate, in the middle of the 20th century LAC, South Asia and SSA had fertility rates about double those of Europe and North America. By 2015 however rates more or less evened out across the developed and developing world[3], with the obvious exception being SSA.

[3] The terms 'developed' and 'developing' used to described different world regions are widely employed in health, development and political sectors. I consider them to be highly political labels which are reflective of a particular American/ Euro-centric discourse. The terms themselves and the assumptions they imply – that particular world regions have achieved greater economic and often social standards than others – have become normative assumptions and are, in my view, highly problematic. I use these descriptive terms throughout this thesis because they are one of the most widely recognized ways of classifying countries in the global health field; I do not, however, use them without hesitation, conflict or protest.

While the transition to lower fertility in LAC and South Asia began in the 1960s, the same transition did not begin in SSA until the 1980s and even then more accelerated fertility declines in SSA countries resembled the slower paced declines in LAC (Bongaarts and Casterline 2013). Despite experiencing at least some of the conditions which some theorists hypothesize led to rapidly declining fertility in developed countries (namely economic development and improved social conditions including significant declines in mortality) some SSA countries remain with TFRs higher than regional averages seen in the 1960s (World Bank 2016) (see **Table 1.2**). There are, however, notable and oft-cited exceptions in SSA whose fertility rates resemble those of LAC, the Middle East/North Africa and South Asia.

Table 1.2 Five highest & lowest total fertility rates in continental sub-Saharan Africa, 2015

Highest TFRs (highest to lowest)		**Lowest TFRs** (lowest to highest)	
Niger	7.3	South Africa	2.5
Somalia	6.4	Botswana	2.8
Democratic Republic of Congo	6.2	Lesotho	3.1
Mali	6.1	Namibia	3.5
Chad	6.0	Zimbabwe	3.8

(World Bank 2016)

1.3 Demographic transition theory

The inter- and intra-regional fertility differences observed in SSA have challenged demographers, economists and epidemiologists for decades as the SSA 'fertility conundrum' fails to fit the dominant fertility 'logics' put forth by an array of demographic transition theorists. In this section I describe the main tenets of the most widely-recognized, influential theories, generally mapping how fertility has been understood in dominant discourse and how theory has developed over time. The influences of the following theories on contemporary global health and development policy, especially in the fields of SRH, merits a full understanding of theoretical evolution.

Table 1.3 outlines the general tenets of major recognized theories in relatively chronological order, though as expected the evolution of discourse is not entirely linear. The most recognized contributing authors are listed though many others also contributed to theoretical development.

Table 1.3 Major developments & trends in demographic theories of fertility

Theory	Main theoretical tenets	Authors / associated authors	Critiques
Malthusian	- Population growth dependent on economic material conditions, especially food supply; population will grow faster than food supply until consumption is at 'sub-optimal level' - Children are viewed as 'capital goods' supplying future labor - Fertility increases with increases in income Population control possible through: • *Negative population checks* : societal pressure, government sanctions to control population • *Preventive checks* : 'moral restraint' (eg delayed marriage, reduced sexual relations) • *Positive checks* : 'misery and vice' (eg war, disease)[4]	Malthus 1798	- Does not account for technological innovation in food production[5] - Conceptually not empirically-based[6]

[5] in Ehrlich and Lui (1997)
[6] Johnson Hanks (2002)

Classic demographic transition	- Social & economic 'modernization' (eg industrialization) will incite demographic transition, first through lowering mortality with increased standard of living as well as education, urbanization, etc. - Influenced by evolutionary theory[7] : unidirectional & homogenizing, same trend across geographic & cultural space[8] 3 phases of transition[9]: • *Pre-transitional phase*: high fertility, high mortality = slow population growth • *Transitional phase*: falling mortality = rapid population growth before fertility descends • *Incipient phase:* low fertility, low mortality = slow/no growth	Davis 1945 Notestein 1945 Davis & Blake (1956) Bongaarts 1978 (socio-economic 'background' factors operate through proximate determinants of fertility – marriage, contraception, lactation and induced abortion)	- Modernization theories exist 'beyond time and space', do not consider political/cultural contexts[6] - Generalize across contexts and refer generally to 'modernization' without pinpointing specific causal links[10]
Diffusion	- Princeton University European Fertility Project (1963) found no link between economic development and fertility decline - Fertility decline related to 'idealtional & cultural changes' across groups sharing similar 'cultures'	Knodel and van de Walle 1979 Cleland & Wilson 1987 Watkins 1987 Cleland 1985 Cleland and Wilson 1987	- 'Culture' defined as a mix of anything not related to demographics or economics[11]
Wealth flows	- Shift to micro-level changes in family as explanations for fertility decline - Reversal in flow of goods and services; older generation now invests in younger; families nuclearize	Caldwell 1978 Kaplan 1996 (Skills-based labor market increases value of parental investment in children)	- Little empirical research, difficulties in actually operationalizing theory[12] [13]

[7] Greenhalgh 1995
[8] Davis (1945)
[9] Notestein in Greenhalgh (1995)
[10] Johnson Hanks (2007) and Greenhalgh (1995)
[11] Kertzer 1995
[12] Greenhalgh 1995
[13] Kirk 1996

Fertility & consumer choice	- Fertility a rational choice as a function of costs / benefits of children as durable goods, mostly bringing intrinsic benefits - Personal preferences, income and desire for quality versus quantity are considered	Becker 1960 'Chicago school' Easterlin 1985 (accounts for some social parameters control but still based on consumer choice)	- Generally de-historicized and –contextualized[6] - Does not explore realized fertility differing from preferred fertility in detail
Institutional determinants of fertility change	- Fertility determined in great part by institutional characteristics of a society including 'community structures, family systems, sex roles' and kinship networks[6] - Institutions create 'incentive structures' which shape fertility norms and desires and also respond to changing circumstances (ie economic, environmental, legal, etc); fertility choices change as individuals'/couples' 'rational' options, which are 'bounded and segmented' by institutions, also change - Some institutional configurations are more conducive to fertility change / transitions than others[6] - *Mc Nicoll* : 5 general world patterns of institutions based on geography - *Cain*: children as old age security for parents	Mc Nicoll 1980, 1994 Cain 1981 (Risk and institutions) Lesthaeghe 1980 (Socially constructed, shifting universes of meaning ['tastes and aspirations/preferences] interact with institutions to shape fertility desires) Potter 1983 Korotoyev 2016	- Emphasizes influence of structures, reduces role of individual agency
Female roles & status	- Women's position in relation to men - Empowerment in family through education, economic independence, autonomy from male influence fertility desires	Mason 1987	- 'Part theories'; little empirical research and actual developed theory[6]

Culture & political economy of reproduction	- Multi-leveled field of inquiry, fertility and reproduction 'socially embedded processes' - Explicitly historical, attentive to political and economic dynamics as well as social and cultural forces - Combines societal structure/institutions (macro) with individual agency (micro) - Evolution of particular sets of reproductive institutions / behaviors & relationships between constitutive elements - Explicit inclusion of gender/institutional power dynamics	Greenhalgh 1995 &contributors Bledsoe and Banja 2002 Johnson-Hanks 2002 Cornwall 2007 Van der Sijpt 2014	- No unifying theory, context specific so that not applied across contexts

1.3.1 Malthusian theory of population growth & the advent of classic demographic transition theory

The Malthusian theory of population growth was foundational to demographic theory formed well into the 20th century, the first in a line of theories dominated by the relationship between material economic conditions (Malthus emphasized food supply in particular) and population growth (Ehrlich and Lui 1997). In this theory, Malthus claimed that the population would grow exponentially faster than the food supply until food consumption reached a 'sub-optimal' level thus limiting farther growth. In this theory children are valued for their material rather than their intrinsic worth (*ibid*). After the end of World War II a significant global shift in population trends occurred as birth rates declined in most parts of the world (Greenhalgh 1995). Classic demographic transition theory continued in the Malthusian utilitarian tradition, mainly tying population dynamics to economic circumstances and resulting social conditions (Notestein 1945)[14].

That such an influential theory has a conceptual rather than an empirical basis has drawn much criticism, yet these links between economic development and population informed a school of demographic theory and remain a main theoretical principle in much of contemporary development and policy work (Bledsoe and Banja 2002, Johnson-Hanks 2008). The theory lays out three phases of the transition from high to low fertility which Europe and North America underwent (**Table 1.4**). 'Economic modernization,' the theory stipulates, will incite a shift from high to low fertility, first through reduced mortality and rapid population growth as fertility remains high and then the development of conditions and initiation of practices which allow individuals to limit their fertility to small numbers. As discussed below, the exact definition of a 'modernized' society remains rather vague though a general improvement in material and social conditions stemming from industrialization and urbanization, inciting reduced mortality in a first instance, are understood as foundational to this shift (Johnson-Hanks 2007).

Interestingly, in 1945 Notestein predicted that world population would reach 3.3 billion people by the year 2000 (Kirk 1996). With a population of over 7.3 billion recorded in 2015 (United Nations 2017), Notestein largely over-estimated how global fertility rates would fall over the rest of the century.

[14] Kirk points out that while Notestein is 'conventionally' credited with coining the term 'demographic transition' it actually first appears in Adolphe Landry's 1934 publication *La Révolution Démographique*. (Landry 1934)

Table 1.4 Three phases of classic demographic transition

Fertility phase		Conditions
I.	**Pre-transitional**	High fertility High mortality Slow population growth
II.	**Transitional**	High fertility Low mortality Rapid population growth
III.	**Incipient**	Low fertility Low mortality Slow / no population growth

(Notestein 1945 in Greenhalgh 2015)

1.3.1.1 Critiques of classic demographic transition theory

A number of critiques are laid against classic demographic transition theory (Kirk 1996, Greenhalgh 1995). First, empirical examples of demographic patterns which defied the three-stage demographic transition emerged (mostly from Europe due to poor availability of demographic data in other parts of the world) (*ibid*). These examples showed that in some cases fertility decline preceded mortality decline, that fertility decline was not always related to socio-economic 'modernization' and that in some settings fertility declines within the same country occurred at different times for different groups of people (Schneider and Schneider in Greehalgh 1995, Kirk 1996).

In addition, some argue that 'modernization' was left largely undefined by classic transition theorists, with no clear or consistent way of measuring when a given society has actually 'reached' such a benchmark in development (Johnson-Hanks 2008). Theorists have generalized about industrialization, urbanization, widespread education and literacy but little empirical work establishes consistent causal links between particular variables and population fertility decline (Kirk 1996). Some literature does show associations between increases in education and urbanization and decreases in individual fertility but links between wealth status and fertility remain unclear (Cochrane 1983, Ainsworth, Beegle, and Nyamete 1996, Sato and Yamamoto 2005, Stulp and Barrett 2016). Notestein captured the nuance of defining determinants of fertility decline: 'It is impossible to be precise about the various causal factors [of fertility decline linked to modernization], but apparently many were important' (Notestein in Kirk 1996:364).

Greenhalgh also suggests that demographic transition theory is an offshoot of mid-19th century evolutionary and subsequent mid-20th century economic modernization theories. Founded in the same Euro- (or American)-centric perspectives, these theories assume that the economic

development and fertility patterns that Europe and America followed are the inevitable precursors to advanced societies:

> Social change [is viewed] as unidirectional and progressive, irreversibly moving societies from a primitive to an advanced stage, making them more alike in the process (1995:6).

Any society not yet having embarked on such a transition is simply, according to the theory, 'behind' where it should and one day will be.

Finally, many critiques of classic demographic theory, post-classic theories and, in Chapter 2, SRH policy and programs based on these assumptions focus on the shortcomings of *rational actor paradigm*[15] assumptions (Cleland and Wilson 1987, Yamaguchi and Ferguson 1995, Greenhalgh 1995, Bledsoe et al. 1994, Johnson-Hanks 2007). The rational actor framework is closely linked to micro-economic theories of rational choice in market transactions: individuals are viewed as autonomous, 'rational' decision makers who *choose* fertility based on clear cost-benefit analyses. For example, the costs versus the 'returns' of 'x' number of children as, for example, future laborers or social security in old age. On a macro-level, this paradigm:

> [Assumes] stable relationships between population outcomes and individual aspirations or intentions…in which 'fixed preferences' are 'revealed' by behavior…statistical regularities are imbued with social meaning (Johnson-Hanks 2007:4).

The subtleties and dynamism of drivers of individual fertility behaviors are, therefore, lost and as a result discounted.

The rational actor paradigm also gave way to intentional fertility preference, or parity-specific discourses which were and continue to influence SRH policy and programming, especially in SSA. This framework assumes individuals/couples decide on the specific number of children they would like to have at the beginning of their reproductive lives. This number is based on a rationale that takes into account the financial resources a couple has to 'invest' in each child versus how much that child will give back to her parents. Once this desired number of children is met couples will simply limit fertility for the rest of their reproductive lives. Other

[15] In sociology referred to as the *rational choice theory* (Johnson-Hanks 2007); in this dissertation 'rational actor paradigm' refers generally to theories across disciplines which view the individual as an autonomous, predictable decision maker whose pre- and long-term planned intentions are revealed by her/his actions.

considerations for having children, such as the intrinsic rewards of love and family formation, are rarely included often because they are difficult to quantify (Kirk 1996). Classic transitions theories do consider that in pre-transition societies the means to rationally *choose* fertility (ie through the use of contraception, traditional or modern) was/is not always available or acceptable (Kirk 1996, Ehrlich and Lui 1997). In these contexts modernization is meant to also make contraceptive methods available to facilitate rational fertility choices, thereby spurring the demographic transition.

Several lines of argument contest the usefulness of the rational actor paradigm in understanding or predicting fertility patterns. First, viewing individuals, especially women, as autonomous decision makers removes them from the intricate web of histories, past reproductive experiences, socio-cultural contexts, influences, limitations and personal desires in which they are embedded (Greenhalgh 1995, Kirk 1996, Ehrlich and Lui 1997, Mumtaz and Salway 2009). For example, influential family members such as spouses, in laws or parents, institutions such as religion and structural barriers like poor health system access to contraception are all discounted in the individual's fertility decision making process. Some theories also consider couples as a single decision making unit which assumes that women and men have unified fertility preferences throughout their reproductive lives, while also obfuscating gendered power dynamics which in many settings inhibit women from expressing/realizing their own fertility desires (Bankole and Singh 1998, Tilahun et al. 2014). While studies have shown couple concordance in fertility preference, there is also substantial evidence of couple discordance when it comes to planning families (Bankole and Singh 1998, Short and Kiros 2002, Oyediran 2002, Voas 2003, Tilahun et al. 2014).

Finally, other authors have criticized the inability of most demographic theories to account for changing life circumstances, especially in contexts of high uncertainty that characterize many settings in SSA (Bledsoe 1995, Bledsoe, Banja, and Hill 1998, Johnson-Hanks 2005, Cornwall 2007b, Van der Sijpt 2012, 2014a). Pre-determined fertility preference does not account for changes in fertility preference over the course of the reproductive lifetime, considering the contingencies that define life in general and reproductive life in particular for many women and men in SSA (Kodzi, Casterline, and Aglobitse 2010, Kodzi, Johnson, and Casterline 2012, van der Sijpt 2014a). Johnson-Hanks explains:

> The link between intentions and outcomes is itself a social product…especially when the cultural repertoires through which [women] organize their actions differ so much from those built into the quantitative models that the models misattribute their intentions (Johnson-Hanks 2007:2,33).

Fertility can take on different meanings and values for the same person depending on a myriad of circumstances, both anticipated and unexpected, throughout the reproductive years (Bledsoe 1995, Bledsoe and Banja 2002, Cornwall 2007b, Van der Sijpt 2012). Fertility outcomes, especially on population levels, are not therefore necessarily representative of 'initial' or stated fertility intentions (Johnson-Hanks 2005). Despite the many legitimate questions that have been put to and often empirically disproven aspects of classic transition theory, 'the force of [its] generalization remains' (Coale in Kirk 1996:365); the theory continues to influence the framing of demographic and fertility questions with ongoing and significant policy and programming implications highlighted throughout the following chapters.

1.4 Post-classic fertility transition theories

As shown in **Table 1.3**, a number of fertility theories followed classic demographic theory using varying degrees of empirical data to pinpoint factors that ultimately contribute to fertility decline. Especially challenging were attempts to explain countries and regions, including those in SSA, which had not yet made or even started 'the' transition. While some theories diverged from the economic emphasis of classic transition theory, the lasting influence of Malthusian relationships between economy and fertility frames many subsequent theories.

In the following sections I briefly describe overarching principles of post-classic fertility theories. While I group theories by their dominant lines of argument as economic/utilitarian, socio-cultural and political economy of reproduction, it is of note that many theories overlap more than one category.

1.4.1 Economic & utilitarian determinants of fertility transition

Along with Malthusian and classic transition theory, the *wealth flows*[16] and *consumer choice* theories emphasized economic determinants of fertility change. One notable difference is the shift from macro-economic considerations of classic transition theory which incite sweeping changes; instead, theorists like Becker (1960) and Caldwell (1978) focused on the contributions of micro-level attitudes, actions and choices within the nuclear family to lower fertility. As individual, 'rational' units, families make fertility decisions based on clear cost-benefit analyses (see section 1.2.1.2).

[16] Caldwell (1978) goes on to write about socio-cultural/institutional determinants of fertility in explaining SSA high fertility and 'resistance' to the demographic transition, integrating his *wealth flows theory* into this argument (Caldwell and Caldwell 1987), but leaving it with little if any empirical evidence (Greenhalgh 1995) especially as a stand-alone theory in SSA contexts.

Critics of these theories emphasize a lack of consideration for historical, contextual and/or cultural factors or personal preferences 'impinging on those cost-benefit deliberations' (Greenhalgh 1995:8, Pollak and Watkins 1993). In addition, the availability of modern contraceptive methods is assumed to be an essential factor for fertility transition in most models; Johnson-Hanks and others point out, however, that this assumption 'has taken hold despite the fact that the prototypical fertility transition, that of Europe, relied largely on the traditional methods of withdrawal and abstinence, alongside abortion' (Johnson-Hanks 2002:229, Schneider and Schneider in Greenhalgh 1995).

1.4.2 Socio-cultural determinants of fertility transition

Classic transition theory and its subsequent offshoots 'enjoyed a honeymoon which lasted for nearly 20 years, and was widely accepted, at least as a generalization' until empirically-backed critiques began to emerge, at first using examples from the historical development of Europe (Kirk 1996:364). The Princeton University European Fertility Project, led by Ansley Coale in 1963, was an impressive undertaking of demographic analysis and inspired a new round of theories divergent from classic models. The Princeton teams found 'no consistent relation…between the timing of the onset of fertility decline and measures of social and economic development' (Knodel and van de Walle 1979 in Greenhalgh 1995). The Project's conclusion was that fertility decline was instead related to 'ideational and cultural changes', specifically about fertility preference and birth control, across similar populations (*ibid*).

The *cultural diffusion* theory was born out of these significant conclusions. This was followed by other theories focused on the socially-constructed environment which shapes, limits and facilitates individuals' and couples' reproductive choices, which could then lead to fertility change. Lesthaeghe (1980), Mc Nicoll (1980) and Cain (1981) among others contributed to theories of *institutional determinants of fertility change* and, later, Karen Mason (1987) initiated one of the first, albeit limited, fertility conversations rooted in gendered roles and women's empowerment (Greenhalgh 1995).

While a great contribution to the fertility transition conversation, the Princeton project fell short in some respects. Mainly, the project had not specifically set out to investigate cultural determinants of fertility decline (Kirk 1996). A mix of determinants, therefore, went into the 'culture' black box: any potential determinant, non-economic in nature, common to a group of people. Given these methodological constraints, the project was limited in its ability to explain what exactly incited decreased fertility at a given time in a particular 'cultural' group and the 'mechanism of the diffusion process which remains postulated but is not demonstrated' (*ibid*:366). In addition, socio-cultural models have also been criticized for placing all fertility

changes on culture to the neglect of tangible historic, economic and political factors (Greenhalgh 1995).

Despite the significant and empirically-based contributions of socio-cultural theories of fertility change Kirk explains that:

> …economic and related socio-economic theories have often tended to prevail because they were more successful than cultural-ideational theories in giving conceptual and mathematical precision to their models (Kirk 1996:370).

Therefore, contemporary fertility discourse and global reproductive health policy are still often heavily influenced by associations with socio-economic conditions.

1.4.3 Culture & political economy of reproduction

In response to the claims of both socio-economic and –cultural trends in fertility theory from the last decades, a substantial body of literature has emerged, particularly from anthropologists, that calls for a 'multi-level field of inquiry' into historical and contemporary fertility patterns, reproduction and contraception, conceiving of fertility and reproduction as 'socially-embedded processes' (Greenhalgh 1995:17). While preceded by more reserved appeals to expand the field of demography's consideration of fertility determinants, the collection of essays edited by Susan Greenhalgh was a forceful call, greatly challenging established theoretical frameworks (1995). In this vein, a relatively recent generation of scholars considers the multiplicity, simultaneity and intersectionality of factors – historic, socio-economic, -cultural, political, institutional, structural and personal – which drive fertility preference and, therefore, contribute to fertility (non)-transitions (Bledsoe and Banja 2002, Johnson-Hanks 2005, Cornwall 2007b, Foley 2007, Mumtaz and Salway 2009, Kodzi, Johnson, and Casterline 2012, Bajos et al. 2013, van der Sijpt 2014a).

While these analyses do not as yet comprise a coherent line of fertility theory, I group them together under the heading used by Greenhalgh for their similar approach and consideration of real human conditions such as uncertainty, contingency and lived reality – factors which are often absent from their theoretical predecessors.

Greenhalgh's introduction to *Situating Fertility* as well as Caroline Bledsoe's work in the Gambia (1998, 2005), Andrea Cornwall in Nigeria (2007a, 2007b), Jennifer Johnson-Hanks in Cameroon (2002, 2005, 2007), and Erica van der Sijpt also in Cameroon (2012a, 2012b, 2014) were major theoretical points of departure for this doctoral work. These authors are particularly

helpful in understanding the unique and diverse fertility experiences of SSA which have in many cases defied the 'logic' of existing fertility theories.

1.5 Sub-Saharan Africa: a different fertility transition?

As quantitative demographic data demonstrates, much of SSA has not followed the 'fertility logic' laid out by classic, three-stage demographic transition theory (see section 1.2.1). While LAC and Southeast Asia have both drastically reduced TFRs over the last decades, SSA TFRs remain markedly high. Is SSA simply 'lagging behind' other world regions in the uniform, unidirectional, inevitable march towards reduced fertility? Or, does SSA have a fertility regime all to its own? If so, why?

Some scholars continue to frame SSA as simply 'a latecomer' to lower fertility (May 2017), subscribing still to the 'uniformity and inevitability' (Greenhalgh 1995) of the demographic transition for all geographic and socio-cultural regions. In contrast, beginning in the 1980s, a group of scholars hypothesized why SSA is exceptional in its 'resistance' to the demographic transition other regions of the world were purported to undergo in the latter half of the 20th century[17]. These authors generally agree that while certain aspects of economic development have contributed at least in part to fertility decline in some contexts across SSA, the 'development is the best contraception' argument does not hold across the continent and has failed to drive fertility rates down to levels comparable with LAC and Southeast Asia (Korotayev et al. 2016).

Major contributions to understanding 'African exceptionalism' are outlined in **Table 1.5.** This list captures common threads of 'exceptionalism' literature as well as points to where authors diverge in their analyses. These hypotheses are backed by varying types and depth of empirical data and are subject to criticism as well.

[17] As literature summarized in **TABLE 1.3** emphasizes, assumptions on which conclusions about fertility transitions in regions of the world such as LAC, Southeast Asia and even parts of Europe and North America should also be subject to scrutiny, given that conclusions based on population data alone 1) are themselves 'social products' of particular historical, socio-cultural contexts such as, for example, long term planning based on parity-specific fertility preference and 2) often obfuscate more nuanced motivations for fertility action (Bledsoe, Banja and Hill 1998, 2002, Johnson-Hanks 2007).

Table 1.5 Major contributions to theories on 'African Exceptionalism' & fertility transitions

Principal contributing authors	***Overarching argument /*** Supporting theoretical tenets
Caldwell and Caldwell (1987)	***African religious traditions frame fertility as a 'virtue'*** ***Strong cultural importance of continuing family lineage, resistant to contemporary family planning programs*** - Pro-natalist cultural constructs: early female marriage, widows remarry quickly, polygamy, quick first birth after marriage - Cultural constructs of family and wealth flows = 'reproductive decisions only loosely related to dependency burdens' - Low political support for family planning programs in most SSA countries
Caldwell, Orubuloye and Caldwell (1992)	***Increased contraceptive use and decreased fertility will be seen in women of all ages, not just in older women limiting births as observed in other fertility transitions*** - Widespread occurrence of female & male premarital sexual relations in SSA as compared to other regions - Strong socio-cultural tradition / importance of birth spacing; contraception will be used to maintain/lengthen birth intervals - Notable fertility declines in SSA in countries[18] with decreased infant mortality and increased rates of education, especially for girls; these factors contribute to fertility declines[19] - Availability of contraceptive services plays important role in reducing fertility
Bledsoe, Banja and Hill (1998, 2002)[20]	***Western assumptions of fertility differ greatly from regions of SSA*** ***Modern contraception used to space births after adverse reproductive events to conserve limited 'bodily resources', have as many living children as they have been 'endowed' with[21]*** - Parity-specific fertility planning/limitation does not fit with SSA socio-cultural conceptions of fertility and reproduction - Fecundity is not 'time-bound' by age; rather, women are 'endowed' with a certain number of potential pregnancies/children in a lifetime

[18] Botswana, Zimbabwe and Kenya are specifically referenced for their observed 'transitions' to lower fertility (Caldwell, Orubuloye and Caldwell 1992)

[19] Conclusions based on demographic transitions observed at time of writing; notable that this theoretical tenet echoes mainstream arguments that economic development and subsequent social changes contribute to/are responsible for changes in fertility

[20] Even though Bledsoe et al (1998) explicitly state they do not aim to comment on fertility levels or decline (p.17), I believe their contributions to understanding why SSA might be 'different' in fertility patterns, especially contraceptive use, are essential perspectives in the 'African exceptionalism' literature

[21] Conclusions based on work in the Gambia but corroborated by other examples and literature in SSA, cited in same article

	- Fundamentally different assumptions shaped research in high fertility contexts therefore data linking previous reproductive events and contraception use/fertility largely absent; ability to make empirical conclusions therefore limited
Johnson-Hanks (2007)	***SSA has fundamentally different fertility 'regime', neither spacing nor limiting, rooted in profound uncertainty in SSA contexts*** ***Fertility still 'conscious choice' but considers 'possibilities reproduction keeps open' rather than parity[22]*** - In extreme uncertainty, 'utility maximization following principles of rational choice [foundation of demographic transition assumptions] is ineffectual' - Inferences about fertility intentions from population data are based on the assumptions/conditions of a particular [western, non-SSA] context - Few assumptions from one context can hold in another context - 'Parity-specific control of fertility' is only one of many 'modes of reproductive management'
Timaeus and Moultrie (2008)	***SSA fertility patterns motivated by 'postponement' of childbirth – waiting to become pregnant for reasons other than the age of the youngest child***
Moultrie, Sayi and Timaeus (2012)	***'Conceptually, mathematically and diagnostically' different from either spacing or limiting[23]*** - Postponement of childbearing until a more 'opportune' time is a 'rational response' to recurring uncertainty, specifically of SSA institutions - Some couples become 'permanent postponers' and never have another child; fertility intentions are sometimes uncertain, dependent on life circumstances - Making 'conditions of regularity' in SSA life will incite fertility decline
Korotayev et al (2016)	***Behaviors particular to SSA promote high fertility and are linked to characteristics of 'hoe agriculture' and resulting socio-cultural practices*** - Specific socio-cultural constructs which encourage high fertility resulting from hoe agriculture: ▪ Post-partum abstinence ▪ Long birth intervals ▪ Polygamy ▪ Central importance of extended families ▪ High participation married females in labor outside the home

[22] Johnson-Hanks asserts that the uncertainty surrounding fertility and reproductive decisions is not unique to SSA contexts (specifically Cameroon in her research) but in fact occurs across settings both in SSA, other LMICs and the west; however she also demonstrates that the type of uncertainty experienced in Southern Cameroon is more common than in the west and is 'grounded in material conditions and variably culturally elaborated' (Johnson-Hanks 2005:382).

[23] Timaeus and Moultrie (2008) and Moultrie, Sayi and Timaeus (2012) respond specifically to Johnson-Hanks' (2007) proposition of a 'third approach to family building in SSA', classing this third approach as birth 'postponement'

1.5.1 Common threads of 'African exceptionalism' theories

In looking at the various contributions to 'African exceptionalism' fertility theories over time distinct common threads across authors' propositions emerge. Explanations for the exceptionality of SSA fertility patterns respond to modes of production common across the region. Increased outputs of these modes of production both facilitate and are facilitated by high fertility including marriage patterns such as polygamy, gendered divisions of labor and the importance of extended kinship networks. The fragility or uncertainty of many contexts makes the financial and social support of extended kinship networks – both during the reproductive life years but also in old age – especially important.

1. *Modes of production require and facilitate high fertility.*
   Agricultural modes of production common to many SSA contexts, such as 'hoe agriculture', increase output with larger families to work land. Women, including married women, are highly involved in labor outside of the home which in turn encourages men to maintain multiple households; this can also decrease natural protection against pregnancy by reducing exclusive breastfeeding of young children. Extended kinship networks increase access to land which also increases production and access to a wider network of financial and social support.

2. *Uncertainty permeates many aspects of life in SSA and factors significantly into the framing of fertility intentions, reproductive action and subsequent results.* Individuals, couples and families confront economic, political, health, institutional and personal uncertainties on a daily basis across settings in SSA. Therefore, flexibility, open-endedness and action contingent on changing circumstances are, in most SSA contexts, rational approaches to fertility and reproduction. Birth spacing in SSA, therefore, cannot necessarily be classified as only 'spacing' or 'limiting' but rather 'postponing' birth if and/or when a more opportune time presents itself.

3. *Pro-natalist institutions particular to SSA value and facilitate high fertility*[24]*.* The convergence of socio-cultural norms unique to the region and common across many SSA settings which encourage high fertility include early sexual debut and

[24] No authors, at least in the literature cited in this section, contend that SSA social-norms are static or incapable of evolution or change; rather, authors point out foundational socio-cultural institutions which have, in turn, contributed to pro-natalist values and subsequent practices. There are many examples in these and other authors' work that emphasize the fluid and varying nature of norms within and between SSA societies and their associated value systems.

marriage, polygamy, spiritual significance of succession, and the practical roles of extended kinship networks.

4. *Socio-cultural logics underlying fertility and reproduction in SSA are fundamentally different from those on which western theories of fertility are based.* The socio-cultural logics which link fertility intentions and fertility actions in SSA are fundamentally different from those in other regions of the world. Therefore, fertility theories based on parity-specific fertility control, for example, will be largely irrelevant in SSA contexts which do not consider parity in fertility decision making.

   In addition, research measures of contraceptive outcomes such as unmet need and discontinuation rates are also formed and understood within [western] socio-cultural frameworks that do not consider contraceptive strategies and use within SSA contexts; therefore, most conclusions made from such measures will not be reflective of lived realities in SSA.

5. *Birth intervals are longer in SSA than other parts of the world but with little effect on fertility.* Post-partum abstinence practices and polygamy in regions of SSA have helped maintain these longer intervals but have had little effect on fertility; with increasing erosion of these practices over time and lack of contraceptive uptake to make up for loss of practices, this could contribute to increases in fertility.

6. *Modern contraception plays an integral part in reproductive realities.* Despite persistently low contraceptive uptake and high rates of contraceptive discontinuation (see Chapter 2), modern methods of contraception play significant roles in reproductive strategies and decisions; even if individuals are not necessarily using modern contraceptives, the possibilities they offer factor into contemporary framing of reproduction.

7. *An absence of parity-specific fertility planning does not equate an absence of intentional reproductive action.* SSA women and men as individuals and couples *are* making intentional decisions about their fertility and reproductive lives, albeit from socio-cultural, economic and institutional lenses different from those which framed western and other regional fertility transitions. As Johnson-Hanks asserts, ‘parity-specific control of fertility is only one of many modes of reproductive management’ (2007:9).

2. Situating contemporary sexual & reproductive realities in the evolution of discourse

Tracing and framing western SRH discourses as socially-situated, historical and political objects is essential to understanding how global SRH actors develop interventions driven by these discourses and are products of larger social and political perspectives, assumptions and agendas. This in turn informs understandings of how contemporary SRH programs are perceived, received and used or rejected by target populations and facilitates relevant interpretations of intervention outcomes. Critical analysis of the ways in which discourses have shaped and influenced programmatic approaches over time makes possible the conception and implementation of programs that better respond to specific socio-cultural circumstances, population (mis)perceptions and needs. Discourse matters as programmatic framing in a given historical and socio-cultural context can facilitate, hinder or even violate sexual and reproductive rights (SRRs).

In this chapter I look at three historical waves of SRH perspectives starting with colonial powers' involvement and interest in SRH, specifically fertility and reproduction. Next I look at the emergence of the population control movement and its influence on SRH policy, backlash against which created the conditions for a re-framing of SRH as rights and the current language used in SRH policy and programming today. Finally, I outline identified facilitators of and barriers to contraceptive uptake in SSA settings and explore different approaches to family planning programming with a detailed focus on two programs implemented in the study area for this research: performance-based financing (PBF) and conditional cash transfers (CCTs).

2.1 Colonial histories of sexual & reproductive health

While many SSA countries' TFRs are among the highest in the world, it is important to understand these numbers in their historical context. It is wrong to presuppose that contemporary high fertility and shortening birth intervals in regions of SSA 'just are and always were'; rather, there is a dynamic fertility history to uncover and understand. For example, in pre-colonial times post-partum abstinence and exclusive and prolonged breastfeeding in much of SSA lasted for long periods but shortened throughout the 20th century (Caldwell and Caldwell 1977, Hartmann 1995). Anthropological and historical evidence asserts that this shortening of birth intervals was also the case in colonial DRC (referenced as Zaire, the country's Mobutu-era name, in some literature) though it is of note that populations in the east of the country where research for this dissertation took place had among the shortest post-partum abstinence practices in SSA in pre-colonial times (Schoenmaeckers et al in Page and Lesthaeghe 1981, Hunt 1988).

Given the profound influence of colonialism throughout SSA, it is especially important to understand fertility trends as they relate to and/or were affected by colonial-era discourse and action. Colonial powers 'promoted', or forced in some cases, SRH practices in African populations often in the interest of advancing larger projects of colonial economic production and profit (Hunt 1988, Vaughan 1991, Kaler 2003). Bianga writes of '*la lutte anti-vénérienne'* – 'the fight against venereal disease' – in Belgian Congo which included a 1921 decree granting medical officers the right to force individuals with syphilis to undergo treatment (1978). While the modes of service delivery and degree to which colonial populations were 'forced' to adopt particular behaviors are important points of reflection, many of these policies also succeeded in improving population health and decreasing mortality overall with especially notable benefits to child and maternal health (Bianga 1978, Hunt 1988, Feierman 1985). Some colonial practices of hygiene, nutrition, reducing work load during pregnancy and maternal health priorities are cornerstones of global maternal health policy today and have proven maternal and infant health benefits (McCarthy and Maine 1992, Ronsmans et al 2006).

A general lack of population records before and during colonial rule in SSA limits knowledge of population dynamics however more reliable data in the last 50 years allows for conclusions about recent trends (Feierman 1985). The advent of relatively well-funded, organized and regular Demographic and Health Surveys across the continent from about 1965, paid for almost entirely by western donor countries most notably the United States (US), have allowed for much more detailed and accurate study of population dynamics and statistical analyses (May 2017).

Populations across SSA decreased significantly at the beginning of colonial rule in the late 19th century with notable population growth after about the first quarter of the 20th century (Feierman 1985). The multiplicity of the dynamics of colonial rule, as well as lasting effects of the slave trade (Vaughan 2007, Donoghue 2014), are deemed responsible for drastic population decrease especially in central Africa and the DRC: new and existing communicable diseases spread more easily with increased movement of people, especially mass labor migration, facilitated by colonial-built roads and railways (Bianga 1978 in Hunt 1988, Feierman 1985, Hunt 1999). In addition, Belgian colonial rule in the DRC was abhorrently brutal, with extensive evidence of unconscionable forms of labor exploitation, maiming and slavery in various colonial enterprises, most famously rubber plantations (see Chapter 3 for more detail) (Ewans 2003, Donoghue 2014). The consequences of such extreme violence, exploitation, malnutrition and disease including sexually transmitted diseases such as syphilis were reflected in astounding rates of infertility and mortality (Ewans 2003, Hunt 1988). Feierman reports that as late as the 1970s in some regions of DRC 20-40% of 50 year old women had

never had a child (very possible infertility as a result of untreated sexually transmitted diseases) and infant mortality rates in some villages were recorded at 30-80% (1985).

As population plummeted in the Congo, 'industrial labor anxieties' emerged in the colony and in Belgium in the 1920s as colonial enterprises lacked able-bodied workers – a serious threat to the colonial profit-making project (Hunt 1988). Pro-natalist policies emerged in the colony, framed in Belgium as patriotic endeavors but with overtly racist discourse and unapologetic economic aims. A 'patriotic plea' from a leader in the colonial pro-natalist movement promoting maternal health initiatives in Belgian Congo in 1926 illustrates:

> Without black labor, our colony would never be able to send to Europe the wealth buried in its soil…To protect the child in the Congo is a duty, not only of altruism, but of patriotism (Hunt 1988:405).

Nancy Rose Hunt (1988, 1999) writes of various pro-natalist policies and interventions in areas of the Belgian colony as early as the 1920s including a widespread increase in the number of maternity facilities, cash birth bonuses given to fathers, maternity gifts such as clothes, soap and food allocations given to mothers who attended antenatal care (ANC), education sessions or gave birth in hospitals and fines punishing home births. In addition, programs endorse by medical personnel and religious missionaries actively encouraged women to *stop* traditional practices that lengthened birth intervals such as breastfeeding and post-partum sexual abstinence which lasted in some areas of the DRC for up to three years (Schoenmaeckers et al. 1981). Certain mining companies forced the wives of Congolese workers to attend ANC and give birth in hospitals, generating lists of absentee women and investigation by camp officials.

Acting outside of prescribed maternal health practices was framed as immoral and, eventually, maternal health also morphed into an economy of reproduction as births in health facilities cost money (Hunt 1999). Local health care providers were unhappy if women gave birth outside of health facilities because community births were money lost; the sale of birth certificates for those who gave birth at home (*ibid*), however, made up for some of this missing revenue. This history remains important in contemporary South Kivu as the medicalization and monetization of health services, especially those related to maternal health, continue to shape norms related to SRH (see Chapter 3).

2.2 'Politics of population': racial panics & population control

Even though population control ideologies would not merge into a coherent movement before the 1940s, Critchlow notes that as early as the 1890s voices in the global North raised strong calls to control fertility at home, particularly the fertility of certain populations (1995). From its inception throughout its significant influence for much of the 20th century the population control movement in the US became an intersection of diverse, sometimes radically opposing and, certainly by contemporary standards, contradicting views (*ibid*, Clarke 1998, Connelly 2003). For example Critchlow quotes a radical feminist passionately taking up the population control banner in 1891:

> …the best minds of today have noted the fact that if superior people are desired, they must be bred; if imbeciles, criminals paupers and [the] otherwise unfit are undesirable citizens they must not be bred (1995:5).

From the 1920s a number of actors joined forces in academia, research and private foundations to justify birth control research and advocacy using eugenics discourse (Clarke 1998, Critchlow 1995, Hartmann 2016). The Population Association of America (PAA), for example, was,

> …founded [in the 1930s] by activists as well as scientists who together were concerned about population's racial and class composition no less than its quantitative growth or decline (Connelly 2003:124).

The PAA unapologetically undertook research early in their existence to test 'the effects of contraceptive use on "the fecundity of the socially inadequate classes…"' (*ibid* 2003:124).

Archival evidence reveals that private foundations invested in the population control movement in the US were looking abroad as early as the 1920s (Critchlow 1995). In 1927 two private American organizations, the Bureau of Social Hygiene and the National Committee on Maternal Health, funded and sponsored contraceptive research in Scotland (no scientists in the US would take on the job) (Clarke 1998). Clarke cites the National Committee on Maternal Health's objective in sponsoring the study – a contraceptive that would also prevent against venereal disease:

> …[an] easily available chemical in a form that should keep in good condition over a long period of time and in all climates, and be so easy to use that the most ignorant

> woman in the Orient, the tropics, the rural outposts or the city slums might be protected (1998:187).

The Bureau of Social Hygiene which funded the United Kingdom study was itself funded by the Rockefeller Foundation, which despite internal conflicts over foundation support of birth control efforts from the 1930s was one of the most involved and influential American foundations in driving birth control research and eventual family planning efforts at home and abroad from the 1960s. Diaphragms and spermicide were distributed and sterilization procedures performed in the US territory of Puerto Rico in the 1930s where US legal bans on birth control at that time were not in effect (Clarke 1998); roughly 20 years later this same network was used in testing of the yet to be manufactured and marketed birth control pill on Puerto Rican women (Pico 1985).

While the British government opened the first family planning clinic in India in 1930 the US government did not begin directly funding contraceptive services abroad until the early 1960s under President John Kennedy (Clarke 1998, Hartmann 2016). Once this precedent was set, however, the US fervently funded efforts abroad earmarking $35 million USD for foreign family planning programs in 1967 alone (Critchlow 1995). Once the Cold War dominated the global stage population control in poorer nations was framed as a national security issue, especially in the US, though Connelly also points out that 'fears of population growth were in many cases still cast in terms of race and class conflict' (2003:127, Hartman 1995).

Family planning programs sponsored by foreign governments in former colonies were decidedly top-down and in some cases coercive (Hartmann 2016). Remnants of the principles driving colonial programs discussed in the previous section endured, albeit for an entirely different aim: fertility limitation, not encouragement, at all costs. Hartmann catalogues coercive programs and numerous reproductive rights abuses in developing countries from about 1960-1990s including payments to individuals who accepted long-acting modern contraception such as the intra-uterine device and even sterilization, widespread availability of sterilization procedures but no other methods of family planning, offers to women to stay in hospital for longer periods of time after giving birth if they accept sterilization and development funds from institutions such as the World Bank conditional on a certain percentage of the population taking up family planning (2016). Population control discourse in action was not, however, limited to developed countries imposing coercive policies on developing populations; Connelly points to developing countries such as India, China, Egypt and Japan which also employed their own, in-country population control programs in the mid-20th century (2003).

Though population control policies would continue to be implemented through the 1990s (and, arguably, still exist today), by the mid-1970s dynamics shifted as deep divisions within the US concerning birth control movements coincided with backlash from developing countries critical of the west's narrow focus on population control over economic development and the 'redistribution of wealth' (Critchlow 1995). Outcomes were viewed on a macro-level and individual fertility desires, reproductive needs and rights were largely absent if not fully discounted. This synchronized criticism slowed domestic and international commitment to reproductive policies rooted only in control (Hartmann 2016).

The lasting impact of population control policies is well-recognized by global SRH scholars. These policies and their foundational principles continue to drive components of contemporary SRH and contraceptive programming as well as influence local perceptions and (non)-adherence to SRH, maternal health, contraceptive and other health programs (Hartmann 1995, Jacobson 2000, Kaler 2004, 2009, Whitaker et al. 2013). There is also a noted resurgence in the use of population control language in some fields concerned with population growth, albeit often reframed to avoid direct association with the controversies of past population control discourse (Hartmann 2016). Pockets of the environmental movement in particular have adopted policies likened to those of population control in their platforms against environmental degradation (Seager 2003, Hartmann 2006, Hartmann 2016). In an illustrative example, an environmental organization in Switzerland sponsored a national referendum in 2012 titled '*Stop overpopulation to safeguard natural resources*' (Copley 2012). Environmental protection rhetoric is linked to population control strategies as the referendum called for a limit to immigration and would have required a minimum of 10% of Swiss government aid abroad to go to family planning measures.

2.3 Sexual & reproductive health as human rights

The International Conference for Population and Development (ICPD) held in Cairo in 1994, and reinforced by the 1995 World Conference on Women in Beijing, marked a significant shift in global SRH and contraceptive policy frameworks and language and, in theory, aims, program design and implementation (DeJong 2000, Jacobson 2000, Foley 2007). As backlash against population control policies and actions, especially overtly coercive ones, mounted in both developed and developing countries a movement in international policy, funding and advocacy circles grew to re-frame SRH as human rights (May 2017). Cairo introduced 'a new paradigm' in population policy that shifted attention from a 'macro preoccupation with the impact of rapid population growth on economic development to a concern for individual rights in sexuality and reproduction' (DeJong 2000 in Foley 2007:327).

A comprehensive approach to SRH was envisioned which would '[help] individuals to achieve their reproductive intentions in a healthful manner' (Jain and Bruce 1994 in Jacobson 2000:25). Although provision of contraceptives was still a main focus, rights-based program goals expanded to holistic service offerings such as safe abortion, diagnosis of sexual infections, supportive counseling and services for contraceptive side effects, services for victims of sexual violence, program responsiveness to community needs and accountability of service providers (Hartmann 1995, Jacobson 2000). These newly-framed rights grew out of a western legacy of second wave feminism or 'the rationality of a right to ownership over one's body/reproductive capacity' (Whitaker 2015:262) as well as previous human rights declarations which explicitly defined SRH and fertility as rights (Jacobson 2000). In theory, the rights-based framework remains the foundational framework on which contemporary SRH and FP programs are designed, implemented and discussed.

The framework has, however, evolved since its first introduction into international policy discourse in the 1990s. One example is the shift from an almost exclusive focus on the rights of women to now including men's SRHR; a substantial evidence base advocates the inclusion of men as targets of and actors in SRH promotion, use and services especially related to women's health outcomes (Barker et al. 2007, Barker et al. 2010, Vouking, Evina, and Tadenfok 2014). In practice, however, a substantial and growing group of scholars argue that rights-based approaches have generally fallen short of achieving their comprehensive aims (Hartmann 1995, DeJong 2000, Jacobson 2000, Foley 2007, Mumtaz and Salway 2009, Tolhurst et al. 2012, Hartmann 2016).

As I will explore and revisit throughout the following chapters, a number of critiques have been leveled against current approaches to SRH and FP, especially in SSA. These critiques include but are not limited to:

- Ongoing programmatic emphasis on contraceptive methods uptake, especially long lasting methods, and fertility limitation divorced from holistic development strategies including gender transformative approaches;

- A failure to consider the socially-situated nature of reproduction including the various actors and power dynamics which shape women (and men's) reproductive lives (see Chapter 1 critiques of the rational actor paradigm);

- The dangers of introducing contraceptive technologies into communities without quality health services to support safe contraceptive use;

- Vertical program designs which do not sustainably integrate contraceptive programs into health systems (Greenhalgh 1995, Hartmann 1995, Foley 2007, Mumtaz and Salway 2009, Tolhurst et al. 2012, May 2017, DeJong 2000, Hartmann 2016).

2.4 Facilitators of & barriers to contraceptive uptake

A number of factors are identified as facilitating and blocking the uptake of contraception in SSA contexts. Availability and accessibility of quality contraceptive services are among the most necessary enablers of contraceptive use (Chabikuli and Lukanu 2007, Thomson et al. 2012, Blackstone, Nwaozuru, and Iwelunmor 2017, Ackerson and Zielinski 2017). Recent studies of family planning services in rural DRC demonstrate that health facilities in DRC are severely limited in their capacity to provide consistent FP services and most are not able to provide FP services at all (Thomson et al. 2012, Casey et al. 2015, Mpunga et al. 2017). Casey and colleagues found that only 6 out of 25 surveyed facilities could provide adequate family planning services (2015). Similarly, Mpunga and group, sampling from 11 DRC provinces, found that only 33% of facilities offered FP services and only 20% of those were designated high quality (2017). Stock outs of contraceptive products were especially noted across DRC studies and cost is reported as a barrier to uptake across settings (Muanda et al. 2016b, Blackstone, Nwaozuru, and Iwelunmor 2017).

While some facilitators other than health system factors, such as girls' and women's education, are consistently associated with contraceptive uptake across settings other factors show mixed results. In a study of six SSA countries, authors categorized determinants into different levels of influence: individual, household and community/contextual (Stephenson et al. 2007a). **Table 2.1** uses this framework to synthesize both quantitative and qualitative findings in SSA on determinants of (or barriers to) contraceptive use.

Table 2.1 Determinants & barriers of contraception uptake by level of influence*

	Determinants	Barriers
I. Individual	▪ Increased age[b,l] ▪ Education[a,b,i] ▪ Desire to space or delay births[b,j] ▪ Increased parity[b,i] ▪ Exposure to FP messages in media [b] ▪ Religion[b] ▪ History of employment[h] ▪ Women's empowerment[h,i] (decision making, attitudes towards partner violence, self-efficacy)	▪ Lack of knowledge[c,e,g,j] ▪ Fear of side effects[c, e, f,g,l,j] ▪ Religion[e,l,j]
II. Household	▪ Marital status[b,i] ▪ Wealth[b] ▪ Relationship stage[i] ▪ Husband support[b,i] ▪ Frequent discussion of FP with husband/spousal communication[b,k] ▪ Marital satisfaction[i] ▪ Women's household status[h] ▪ Male education [a,h,j]	▪ Poor spousal communcation[c,i] ▪ Husband opposition[e,l,j] ▪ Dominant position of male in decision making[g,i]
III. Community/ contextual	▪ Level of female approval FP[b] ▪ Mean years women's education[b] ▪ Mean household amenities index[b] ▪ Religion[b] ▪ Men's social networks' approval contraception[i] ▪ Higher rainfall[b]	▪ Socio-cultural norms – desire for high fertility[c, j] ▪ Fear of social consequences of side effects[d] ▪ Social, family opposition to FP[f, g]

*Framework adapted from Stephenson et al. 2007

[a]Ainsworth 1996, [b]Stephenson et al 2007, [c]Muanda et al 2017, [d]Castle 2003, [e]Mathe et al 2011, [f]Casterline 2000, [g]Muanda et al 2016, [h]Blackstone 2017, [i]Blackstone 2017b, [j]Ackerson 2017, [k]Tilahun et al 2014

Explorations across SSA settings reveal a number of consistent factors which either facilitate or inhibit contraceptive uptake. Factors related to (in)adequate, accessible and quality health services again surface here, especially evidenced by the lack of FP knowledge consistently cited in different studies. Gendered power dynamics and direct and indirect influences on women's empowerment stand out at all levels as significant facilitators of contraceptive use including education, decision making and self-efficacy; these factors could also be related to household factors such as frequent discussions with partners about FP and could extend to community-level attitudes and influences. Some of these factors, such as both women's and men's education and

wealth, could be linked to economic development (or 'modernization') and support facets of theories of demographic transition explored in Chapter 1. Concerns of side effects, often framed as 'fears' in the literature, also stand out as significantly affecting contraceptive uptake for many women as well as men. Health system deficiencies (such as poor or insufficient information) could be responsible for some reported fears of side effects however other studies show these fears are also socially embedded and not only related to the health system (Castle 2003, Diamond-Smith, Campbell, and Madan 2012). Fears of contraceptive side effects are explored in detail in Chapter 12, locating side effect worries in individuals' and couples' broader life circumstances.

2.5 Family planning & contraceptive interventions post-Cairo

2.5.1 Family planning & contraceptive interventions in sub-Saharan Africa

An abundance of research exists on the effectiveness of various interventions to improve maternal health service uptake and outcomes in SSA and many of these interventions have secondary family planning outcomes (Gabrysch and Campbell 2009, Moyer and Mustafa 2013); given the specific focus of this dissertation, however, in this section I will only review interventions specifically targeting family planning and contraception in SSA.

Mwaikambo and colleagues identified 25 evaluations of FP interventions conducted in SSA, dividing interventions into supply- and demand-side approaches; supply-side approaches prioritized quality of care, access to and cost of services while demand-side approaches were categorized as mass media campaigns (information and promotional campaigns using radio, television and/or printed materials), interpersonal communication and development tactics (inclusive of cash transfers) (2011). Cleland (2015) and Blazer and Prata (2016) conducted reviews on strategies in LMICs, including SSA contexts, particularly focused on post-partum uptake of contraception; identified strategies could also be divided between supply- (facility-based) or demand-side (community-based) approaches to increase FP knowledge and uptake.

Mwaikambo et al's conclusion summarized findings across studies well:

> …family planning programs have positively impacted individuals' family planning knowledge, attitudes, discussion, intentions and to a smaller degree contraceptive use (Mwaikambo et al. 2011:6).

FP strategies overall have had mixed effects on knowledge and uptake outcomes, suggesting that intervention effectiveness is highly dependent on how well interventions fit the specificities of the contexts in which they are implemented. Information and education sessions, especially those integrated across the spectrum of maternal health services and child immunizations, were often

successful in increasing contraceptive uptake; all authors conclude, however, that multiple exposure to FP information and messages show a higher effect than one-off counseling sessions and male involvement in FP counseling also improved outcomes in some contexts (Mwaikambo et al. 2011, Cleland, Shah, and Daniele 2015, Blazer and Prata 2016). Given that lack of knowledge about FP is consistently identified as a barrier to uptake, increasing the quality and frequency of FP education sessions in maternal health services is an obvious strategy to increase contraceptive uptake. However, these strategies will of course only reach women who have already given birth; community-based strategies will be needed to reach women who have not yet had a child. Cash transfer strategies are explored in detail below as they were implemented in the study area of this dissertation research and were evaluated in Chapter 10.

Again, findings from these studies emphasized that increasing demand for services does little to improve outcomes if services are unavailable and/or low quality. Blazer and Prata (2016) did show that provider training in FP counseling and method provision increased FP uptake in some cases, but again results varied. Other supply-side strategies such as improving quality of care and increasing access to services by decreasing cost showed mixed results; not all studies evaluated changes in contraceptive use and not all strategies (such as decreasing cost or social franchising schemes) took place in SSA contexts (Mwaikambo et al. 2011). In the following section I specifically explore performance-based financing, a supply-side intervention which has been implemented in South Kivu since 2006 by an international NGO and is growing in popularity as an SRH strategy in DRC as well as other countries in the region such as Rwanda and Burundi (Soeters et al. 2011, Falisse et al. 2015b)

2.5.2 Family planning & contraceptive interventions in South Kivu

While the DRC government has made financial commitments to investing in SRH strategies to increase quality and availability of services (provider training, expansion of services to more facilities, provision of modern contraceptive products and increasing accessibility of SRH services to youth) the allocated resources fall very short of the country's need (Chabikuli and Lukanu 2007). This is evident in the findings of recent studies of DRC health system capacities cited in the previous section which expose a severe deficiency of available FP services and overall system capacity (Casey et al. 2015, Mpunga et al. 2017). Given the country's dire maternal mortality rate and high unmet need for contraception the situation is grave. As Thomson and colleagues modeled in Idjwi health district, enabling women with an unmet need for contraception to access quality family planning services could have a significant and far-reaching impact. According to Thomson et al.'s study, increasing contraceptive prevalence to 30% on Idjwi island could reduce the TFR from its current rate of 8.3 to 6 which was women's stated fertility preference (2012).

Lack of State capabilities at the national and provincial level to fund and implement SRH services means that much of the country's SRH services are financed, developed and implemented by a smattering of international NGOs. As was and continues to be the case in South Kivu, different NGOs 'take on' support of health services and systems in different health districts. Therefore, health priorities, system financing, provider training and service provision are often very different from district to district. Programs are also funded for relatively short time periods (2-3 years) subsequently leading to frequent changes in service delivery and pricing, uncertainty among health workers and sometimes multiple, vertically funded, disease-specific programs. Providers are also often overburdened with administrative tasks related to the monitoring of different NOG-implemented programs for which they receive no extra compensation (Fox et al. 2013). In addition, it is not uncommon for multiple organizations to be working in one district with little coordination regarding service delivery objectives or strategies; some NGOs even operated on a facility by facility basis meaning that service offerings and quality could vary greatly between facilities, even in the same district. For example, in one health district in South Kivu contraceptive products were provided free of charge while in the neighboring district contraceptives were payable. Costs of maternity services and remuneration of health workers changed frequently as well with the beginning and ending of various programs. Similar conditions were also documented by researchers in other DRC provinces (Fox et al. 2013).

In the sections to follow, I highlight two of the prominent SRH programs implemented by an international NGO in the three health districts from where data was collected for this dissertation including PBF (supply side intervention) and CCT for maternal health service use and contraceptive uptake (demand side intervention). As mentioned, research for this dissertation was embedded in an operations research evaluation of the CCT program (see chapters 6 and 7).

2.5.2.1 Performance-based financing for sexual and reproductive health

Performance-based financing (PBF), also known as results-based financing, is a supply-side intervention aimed at 'align[ing] the incentives of health workers and health providers with public health goals' (Witter 2013:1). Generally PBF schemes aim to increase the uptake of particular health services by motivating health providers to increase quality and promote service use in the community. In theory funders, in consultation with local authorities, prioritize particular health services related to general target indicators relevant to each context. Health facilities and/or workers are compensated for the number of pre-defined, targeted services they render and are often required to develop business plans or other strategies to improve efficiency and increase service uptake by the community (Soeters et al. 2011). This strategy is increasingly used in SSA especially to target priority SRH outcomes, including FP; PBF is billed as a way to motivate health

workers especially those operating in fragile/weak infrastructures where salaries and resources are not always available or delivered on time (Fox et al. 2013, Witter et al. 2013).

PBF is implemented in several SSA countries. A 2013 Cochrane review of PBF schemes found nine eligible studies, six of which took place in SSA contexts, targeting a variety of service delivery and quality outcomes (Witter et al. 2013). Overall, Witter and colleagues' review found that PBF showed 'highly uncertain impacts' on ANC attendance and 'unclear' effects on institutional delivery (2013). A more recent study found mixed results on FP use and prevalence but increases in institutional delivery (Blacklock et al. 2016).

Separate studies of PBF schemes in the Great Lakes region – some of which were included in the Cochrane review described above – also show mixed results. In Burundi, authors report that PBF schemes increased ANC attendance by 7%, institutional delivery by 21% and family planning use went up 5% (Bonfrer et al. 2013). In Rwanda, however, Rusa and colleagues found that institutional delivery increased however family planning use did not (2009). Finally, in DRC, results were also mixed – FP use increased but not significantly and institutional delivery increased but only in control areas (Soeters et al. 2011). Authors attribute this unexpected increase to lower user fees implemented by another NGO in control areas. While PBF continues to be widely promoted and implemented across SSA including the DRC, the evidence base for effectiveness remains mixed. Witter and colleagues call for more, high quality evaluations of PBF to understand smaller program effects in different contexts (2013).

2.5.2.1.1 Ethical considerations & debates surrounding performance-based financing

One main concern regarding PBF studies is their sustainability. Because the majority of funding financing usually comes from outside donors, once donor funding stops most governments are not able to take over a PBF program, or at least not in its entirety (Fox et al 2013). Another concern of PBF programs are the programs' effects and/or implications for equity. Witter et al point out that it is unclear if 'gains to providers are passed on to users' (2013:17). Authors also note that without high, consistent supervision and enforceable, substantial sanctions there is a risk of exaggerated reports of service uptake at the health facility level (Rusa et al. 2009, Fox et al. 2013, Falisse et al. 2015b). Field work in South Kivu verified the legitimacy of these concerns as health system actors reported inflated service numbers in districts where PBF was implemented.

There are also concerns that services not prioritized by PBF schemes will suffer because providers have no incentive to encourage patients to use them. The evidence on this occurring in practice is mixed (Blacklock et al. 2016). Blacklock and colleagues also raise the issue of potential coercion resulting from PBF schemes (2016). If, for example, health providers are paid more for

distribution of particular contraceptive methods they may be incentivized to encourage uptake of longer-acting methods over what is best for their patients (2016). In another example, health providers at a reference hospital in Idjwi health district expressed their concerns that many women in prolonged labor arrive at the hospital severely hemorrhaging and/or with uterine rupture; there are indications, hospital providers say, that the women were either not referred to the hospital early enough or that they took a long time to arrive from the health center. Some of these hospital providers speculate that providers in village health centers attempt to handle complicated births at the health center rather than refer women onto the hospital because they do not want to forfeit PBF payments for facility births which, according to the payment scheme that was in place during research for this dissertation, were significantly more (5$ USD) than payments for a successful referral to the hospital (1$ USD).

2.5.2.2 Conditional cash transfers for maternal health service use, family planning and birth spacing

Conditional cash transfers (CCTs) are payments 'targeted to the poor…made conditional on certain behaviors of recipient households or individuals in recipient households' (Fiszbein 2009:45) . CCT programs were first implemented in LAC in the 1990s as broad health and development strategies. Payments were usually made to women and were conditional on children in the household attending school and adoption of some other household behaviour such as regular health visits or parental attendance of nutrition or health information sessions (Lagarde 2009). Studies evaluating the first CCT programs across LAC largely showed positive results on individual, household and population health and development outcomes. Since then, similar programs with education and/or added health outcomes, such as SRH, maternal health and FP, have expanded to other countries in LAC as well as Southeast Asia and, increasingly, SSA (Ranganathan and Lagarde 2012, Glassman et al. 2013, Hunter et al. 2017). CCTs, including those targeting SRH, are also prevalent in the global North (Voigt 2017). Unlike the original LAC CCTs which had broad poverty-reduction and wealth-redistribution goals, more recent CCTs, especially those in Southeast Asia and SSA, tend to be narrow in focus targeting a particular health behavior (Lagarde, Haines, and Palmer 2007, Ranganathan and Lagarde 2012, Hunter and Murray 2017).

Overall, evidence for CCTs as a strategy for improving SRH and FP uptake and maternal health and SRH outcomes such as fertility is mixed. A recent systematic review examined the effect of cash transfers and voucher schemes on maternal health service quality and utilization including ANC, facility birth and postnatal care (Hunter et al. 2017). Authors found mixed results of CCT interventions for all maternal health services with the exception of quality of care, where CCTs had a positive effect on the number of procedures performed during ANC (*ibid*). A recent systematic review of FP interventions identified four CCTs to increase FP use and lower fertility,

all of which were in LAC (Mwaikambo et al. 2011). None of the programs showed a decrease in fertility though one program in Honduras unintentionally increased fertility through skewed incentives; some programs showed an increase in contraceptive use even if CCTs were not specifically conditional on contraceptive uptake (*ibid*). In 2016 Khan and colleagues reviewed the evidence for the effects of conditional and unconditional cash transfers on contraceptive outcomes in SSA and other settings. They only identified one study from India (which was not included in the review) that had contraceptive uptake as a primary outcome; the other studies targeted education and health outcomes and measured contraceptive uptake as a secondary outcome. Results were mixed: out of ten studies in the review only three studies increased contraceptive uptake, four decreased fertility and in two studies fertility increased (*ibid*). Interestingly, in Malawi CCTs had no effect on young girls' pregnancy rates while unconditional cash transfers significantly lowered pregnancy rates (Baird, McIntosh, and Özler 2011, Baird et al. 2014). The broad range of outcomes generated by cash transfer programs evaluated thus far leaves many open questions surrounding their effectiveness as a strategy in improving maternal health and FP uptake.

None of the studies identified in Mwaikambo et al. (2011) or Hunter et al. (2017) targeting maternal health or FP services were from SSA. One of the only available evaluations of a SSA CCT specifically targeting SRH behavior is of an intervention in Kenya encouraging sex workers to use condoms and reduce sexually transmitted infection (STI) rates (Cooper et al. 2017). In this instance, CCTs were effective in increasing sex worker's condom use, reducing participants' number of clients per week and decreasing STI rates (*ibid*). While Baird and colleagues found a reduction in HIV prevalence in girls receiving cash payments (both conditional and unconditional on school attendance) in Malawi, the interventions were broad, structural approaches without particular SRH outcomes (2011). Therefore, the results presented in Chapter 9 on the CCT intervention to encourage prolonged birth intervals in DRC contribute greatly to the sparse evidence base for CCTs targeting SRH and FP outcomes in SSA settings.

2.5.2.2.1 Ethical considerations and debates surrounding cash transfers

A widely-accepted assumption since the inception of CCTs is that attaching conditionalities to cash transfers is necessary to achieve program outcomes and overall human capital investment. Recently, however, researchers from different disciplines as well as some program implementers question the assumption that imposing conditionalities on beneficiaries necessarily 'make a program better'(Lund 2011). Baird et al. (2011) state that evidence from different contexts show that '*unconditional* cash transfers (UCTs) also change the behaviors on which CCTs are typically

conditioned' (Hanlon 2004, Baird, McIntosh, and Özler 2011)[25] while other studies emphasize a need to harmonize program design with overall program objectives (Akresh, De Walque, and Kazianga 2013).

In addition, critiques of CCTs have emerged from a range of disciplines: economists question the cost-effectiveness of imposing conditionalities while social scientists reflect on a range of issues including:

- Paternalistic, stigmatizing undertones and implications of conditionalities;
- Possibility of deepening inequities by excluding the most vulnerable groups due to barriers to fulfilling conditionalities for already marginalized populations;
- Potential consequences of shifting household power dynamics by transferring money directly to women (Attanasio, Oppedisano, and Vera-Hernández 2015, Das et al. 2013, Freeland 2007, Handa et al. 2009, Schubert and Slater 2006, Voigt 2017, Krubiner and Merritt 2017).

Joseph Hanlon (2004) raises the possibility of 'simply giving money to the poor', without conditions, as the most logical, effective and efficient poverty reduction strategy. Hanlon argues that the development industry is bloated with administrative costs and only serves an elite group of people, mostly from the global North; it would be more effective and cost-efficient, says Hanlon, to simply allow the poor to 'get themselves out of poverty' with straightforward cash transfers (2004).

Voigt adds to Hanlon's perspective pointing out that most individuals responsible for designing incentivized programs are not familiar with the circumstances of the poor and therefore will not set conditions appropriate to context. This also raises an ethical issue in incentivizing behavior, especially of those 'too poor to say no', which individuals would not otherwise undertake in the absence of financial incentives:

> Incentive schemes often target behaviors that recipients can reasonably regard as inappropriate for them or as insufficiently sensitive to their preferences and circumstances…In such circumstances, the incentive may sway people to act in ways they wouldn't choose if the incentive was not offered or offered unconditionally. The concern that incentive schemes might be attached to options that recipients have good reasons to avoid is heightened by the fact that incentive schemes are often

[25] For further reading on unconditional cash transfers and their effects on health and development outcomes, including maternal, SRH and family planning in SSA and other LMIC settings see : (Akresh, De Walque, and Kazianga 2013, Baird et al. 2014, Baird, McIntosh, and Özler 2011, Benhassine et al. 2013, Handa et al. 2017, Handa et al. 2014, Handa et al. 2012, Robertson et al. 2013, Hunter et al. 2017, Khan et al. 2016, Mwaikambo et al. 2011).

> designed by people who may have little experience of what it is like to be disadvantaged (Voigt 2017:163).

These authors' perspectives highlight the necessity for continued critical discussion regarding the ethics and/or efficacy of conditionalities attached to cash transfers as well as the assumptions underlying the designs of cash transfers (Voigt 2017) and other SRH, health and development programs. Chapter 10 of this dissertation discusses these questions in light of the South Kivu CCT program evaluation findings and Chapter 14 locates these findings and surrounding debates in the context of theoretical and discursive frameworks and overall findings of the dissertation research.

3. Research context: The Democratic Republic of the Congo

On the world stage the Democratic Republic of the Congo (DRC) is characterized by despondent poverty, brutal violence and unchecked corruption (UN 2010). Coined the 'rape capital of the world' by a UN special representative (*ibid*), many view the DRC as a country of depraved perpetrators and helpless victims with distinctly gendered dimensions especially relating to sexual violence – 'active male combatants' and 'passive female targets' (Oldenburg 2015). In many ways these descriptions are indeed reflective of the country's realities. Political uncertainty and chaos reign as the DRC's current president, Joseph Kabila, has led a transition government since 2001. President Kabila refuses to relinquish power and hold national presidential elections that were scheduled for 2016. Political repression has increased and civilian protests over the last years have often ended in violence (Burke 2016, Al Jazeera 2017).

Over the last 20 years more than 5 million lives are estimated to have been lost to violent conflict and its repercussions such as the hardships of displacement, inadequate infrastructure (water, sanitation) and failed health systems (Glass and McAtee 2006, Stearns 2011). In 2016 3.7 million Congolese were registered as internally displaced, the highest number registered in the world (Wambua-Soi 2017). Stories of extreme violence abound in public space. People recount and discuss personal experiences and second hand accounts from the region's past conflicts as well as violent local, regional and national events that make the daily news. Only a few examples of local violence that made world news during the years this research took place include renewed fighting in rural areas displacing local populations (Wambua-Soi 2017, Ross 2017), civilian massacres in the region perpetrated by other civilians, armed groups (Kyalangalilwa 2014)and the Congolese armed forces (FARDC) (Essa and Wembi 2017) and a series of brutal gang rape of at least 39 girls aged 18 months to 11 years committed around a peri-urban town in one of our study areas (Wolfe 2015, 2016).

Violent acts and ongoing insecurity form the backdrop against which everyday life goes on. In this sense violence is 'normalized' yet locals still react strongly to newsworthy events, exuding anger, frustration, sadness but also fascination. The circulation of graphic sometimes gruesome photos on mobile phones and social media, especially in urban centers, of victims of local and national violence inevitably and rapidly follows violent events. This already-charged atmosphere unfolds everyday against an environment that is stunningly beautiful but quietly fierce, even deadly: an active volcano sits to the North in the bordering province; the rainy season brings flooding to the city of Bukavu literally sweeping people away to their deaths as the archaic and inadequate infrastructure is easily overwhelmed; a lake sitting atop methane gas reserves that could any day cause an unthinkable explosion killing millions in the miles around it (Kuo 2017); and detectable, sizeable earthquakes are not uncommon.

It is difficult not to sensationalize such a place.

Yet despite these violent extremes, the chaos of the current political landscape and looming environmental disasters, the DRC is also a profoundly determined, energetic and innovative place of resilient and inspiring people.

Local populations have always and continue to push back against political corruption, State inadequacies, community violence and foreign exploitation; women especially are vocal in refuting the label of passive receptacles and political pawns (Bihamba Masika 2017). In short, the picture is complicated. As Jason Stearns, a respected researcher and journalist with extensive experience in the eastern regions of DRC, so aptly illustrates:

> The Congo is not just blood and gore. It also has an incandescent, raw energy to it, a dogged hustle that can be seen in street-side hawkers and besuited ministers alike…This is the paradox of the Congo: Despite its tragic past, and probably in part due to the self-reliance and ingenuity resulting from state decay, it is one of the most alive places I know (2011:xix).

In order to fully grasp contemporary politics, finances, ongoing conflicts, brutal violence and, for the purposes of this dissertation, the poor health and development indicators which have come to define the DRC for much of the world, it is necessary to trace the historical roots and progressive evolution of the country's present-day realities.

3.1 Geography, governance and administration

The DRC is a vast central African nation (2,344,858 km2) with a population of over 83 million people, making it the 12th largest land area and 16th most populous nation in the world; South Kivu province alone covers 65,070 km² (MONUSCO 2015, CIA 2017). The country's expanse is geographically diverse with stunning yet challenging terrain, holding some of the world's richest mineral deposits. Over 40 ethnic groups and 400 tribes make up the DRC's population (DHS 2014). While French is the country's official language followed by four national languages (Kikongo (west), Lingala (Kinshasa/Northwest), Swahili (east) and Tshiluba (central South)) (ibid), hundreds of indigenous and tribal languages are spoken in small pockets across the country.

Figure 3.1 Map of the Democratic Republic of the Congo

(CIA 2017)

The capital of Kinshasa has a population of over 11 million people (CIA 2017) and is located on the western-most border of the country, across the Congo River from the Republic of the Congo (Brazzaville). South Kivu's provincial capital Bukavu, located about 2,000 km from Kinshasa and built for around 50,000 people, has a current population of over 800,000 (MONUSCO 2015). The DRC is decentralized into provinces and then again into progressively smaller civil authorities (cities/territories, communities, etc.) (DHS 2014). Until recently, the DRC was divided into 11 administrative provinces with the capital of Kinshasa being one; since 2015 the much-delayed implementation of an article of the 2006 constitution divided the country into 26 administrative provinces each with their own provincial, albeit often weak, parliamentary authority and civil/ministerial structures (Berwouts 2017).

Given the sheer size of the country, poor transport infrastructure, persistent political and financial disorganization at the federal level and ongoing disruptive violence especially in the eastern regions, provincial governments are underfunded and operate with relatively little influence/aid from federal power in the capital. The eastern region of the DRC, specifically North and South Kivu provinces, played and continue to play significantly into national and the wider politics and economics of the region. Acker describes the 'tumultuous history between Congo and the Kivus,' rooted in economics, immigration and labor importation from neighboring, land scarce Burundi and Rwanda throughout much of the 20th century, mining and mineral conflicts and eventually regional tensions which culminated in the 1996 war (2005:80).

3.2 History and politics of an exceptional country

With the close of the Berlin Conference in 1885 most of the land area comprising present-day DRC was consolidated by King Leopold II of Belgium as his own personal colony, the Congo Free State (Ewans 2003). Thus would begin 75 years of unforgiving Belgian colonial rule, fueled by the rubber trade and, later, minerals, which many scholars consider one of if not the most brutal colonial regimes in history (Hunt 1999, Ewans 2003, Donoghue 2014 , Stearns 2011, Berwouts 2017). 'Leopold's exploitation of the territory and its peoples that ensued', says Ewans, 'was merciless to the point of genocide'; colonial power crystalized, was enforced and marked on the bodies of Congolese with the indiscriminate use of the '*chicotte*' – 'a potentially lethal whip of dried hippopotamus hide' – up to independence (2003:168; 172). The Belgian government took over the administration, and profit gain, of Leopold II's Free State in 1908 and Belgium granted independence to its colony in 1960.

When the Belgians made their chaotic departure from the newly-named 'Republic of Congo' at the end of June 1960 (Bertrand), after three quarters of a century of calculated, ruthless oppression specifically aimed at maintaining an uneducated, unskilled Congolese populace, only a 'handful' of Congolese had a university education, high-ranking Congolese military personnel, civil servants and judiciaries were non-existent and Congolese economic and managerial capacities were next to zero (Stearns 2011, Berwouts 2017). The only system to 'boast' of was perhaps the extensive health infrastructure, especially regarding maternal and infant health, which was prioritized and (forcibly) medicalized by the Belgian authorities and religious missionaries during population declines detrimental to Belgian economic production and profits in the early 20th century (Hunt 1999) (see also Chapter 2). However the impact of this infrastructure would have been minimal in the immediate post-independence chaos as white missionaries fled and so few trained Congolese health personnel were there to take their place.

The Belgian legacy had a significant, detrimental and lasting impact on the development of Congo as a nation. Specifically in relation to the topics discussed in this dissertation, population health, reproduction and fertility throughout the better part of the 20th century suffered greatly as evidenced by Congolese women's infertility, insufficient resources and skills to run health systems after independence and the Belgian's role in ushering in a dictator who would go on to drain the nation's coffers and public systems (Feierman 1985, Stearns 2011).

Thus, the birth of a nation 'set up to fail' (Stearns 2011:7): the first elected Prime Minister of Congo, Patrice Lumumba, quickly established his disgust for the Belgian legacy and intention to use his office to work on behalf of Congolese, and not Belgian, interests (Deibert 2013). In his

unplanned speech as Prime Minister at Independence Day ceremonies, in front of the departing Belgian authorities Lumumba did not mince words:

> We are proud of this struggle [for Independence], of tears, of fire, and of blood, to the depths of our being, for it was a noble and just struggle, and indispensable to put an end to the humiliating slavery which was imposed upon us by force.
>
> This was our fate for 80 years of a colonial regime; our wounds are too fresh and too painful still for us to drive them from our memory. We have known harassing work, exacted in exchange for salaries which did not permit us to eat enough to drive away hunger, or to clothe ourselves, or to house ourselves decently, or to raise our children as creatures dear to us (Lumumba 1960) (For a full transcript of Lumumba's speech see **Appendix A**).

The fire with which Lumumba openly condemned the Belgians in front of the world would be the beginning of a quickly enforced death sentence. Ludo de Witte argues with his extensive research that Belgium was directly implicated – operationally and 'morally' – in the removal of Lumumba from his office, a coup and his subsequent murder within six months of his election (in Ewans 2003).

From the chaos of a poorly organized and unsupported transition to independence, a military mutiny, secession attempts by Katanga and South Kasai provinces, Lumumba's murder and the stirrings of civil war, General Joseph Mobutu emerged to take over the Congo in a coup in 1965 (Ewans 2003, Berwouts 2017). Mobutu would rename the nation the Democratic Republic of Congo at his takeover and then again to Zaire in 1971 (Bertrand 2016). He ruled for more than 30 years until the Rwanda genocide of 1994 spilled over the border into the Kivus, rousing and agitating deep-rooted tensions while also igniting new, perilous civil and international conflicts (Ewans 2003, Acker 2005, Diebert 2013). This lethal combination exploded into the beginning of The Great African war, marked by the fall of Mobutu at the hands of General Laurent Kabila and his Angolan, Rwandan and Ugandan-backed armed forces (Stearns 2011, Berwouts 2017). Mobutu's Zaire collapsed in 1997 and the Democratic Republic of the Congo was born, again.

In 2001 President Kabila was shot and killed by one of his personal guards as conflict continued to simmer throughout the nation and especially in the East (Stearns 2011). Laurent Kabila's son, Joseph Kabila, assumed power after his father's assassination and has been in power ever since. Now with more than 20 years of conflict and instability, especially in the Kivus but more recently in other provinces as well (Wambua-Soi 2017), Kabila II's regime is close to another breaking point. A confused plethora of foreign, locally organized and/or splintered factions of past rebel

groups with often vague agendas has sprouted all over the east since the early 2000s (Stearns and Vogel 2015). New rebel groups formed especially after the 2011 elections and the defection of hundreds of soldiers from the Congolese army to the new rebel group *Mouvement du 23 mars* (M23) (Berwouts 2017). Many within and outside DRC believed the formation, recruitment and arming of M23 was supported if not orchestrated by Rwanda (Deibert 2013), fanning the fire of an already contentious history and relationship between Kinshasa and Kigali and once again placing the border populations of the Kivus in the middle of escalating regional and international conflicts. The Congo Research Group estimated that the number of armed groups operating in the Kivus alone, most of which claim no more than 200 armed soldiers, rose from around 20 in 2008 to about 70 as of October 2015 (though it is never possible to tell exactly how many groups operate at a given time with frequent fluctuations, factions and re-groupings emerging from week to week) (Stearns and Vogel 2015).

As the conflict continues, fragments and complicates becoming more difficult to define and therefore address, civilians are caught in the literal crossfire. Not only are civilians losing their lives but regional and national health and development indicators speak to the detrimental albeit indirect effects of decades of conflict and neglect of infrastructure on population health (see section 3.3.2). Quantifying loss of life is difficult, but some estimate as many as 3.8 million excess deaths occurred during the first conflict from 1998-2004 alone, only 2% of which were the result of direct violence; 80-90% were civilian deaths related to collapsed systems, food shortages and disease (Glass and McAtee 2006).

The current President Kabila has managed to delay presidential elections which were scheduled for 2016, even after his attempt to change the constitution to allow him to run for a third presidential term was blocked by the Congolese parliament with some opposition coming from within his own ruling party (Berwouts 2017). As of October 2017 the national electoral commission, under the perpetually 'transitional' Kabila government, stated that elections will not be possible before April 2019 (BBC 2017).

3.3 South Kivu province: particularities of the study areas

South Kivu province, the site of this dissertation research, is one of the eastern-most extremes of the DRC. South Kivu has a land surface area of 65,070 km^2 and a population of almost 5 million (MONUSCO 2015). Over 2,000 km away from the capital of Kinshasa bordering the land-strapped, densely populated countries of Burundi and Rwanda, this province has and continues to play significantly into national and regional politics (Acker 2005, Stearns 2011). The provincial capital and economic center of South Kivu, Bukavu (population 806,940), is located on Lake Kivu, a large freshwater lake (altitude 1453 m, volume 550 km^2)(Schmid et al. 2005, Sarmento,

Isumbisho, and Descy 2006, MONUSCO 2015). The United Nations (UN) military and civil mission in the DRC (MONUSCO) has a presence in 7 of the 8 territories of South Kivu and is the longest standing and largest UN military mission in the world (MONUSCO 2015).

In 1994 waves of Rwandans fleeing the Rwandan genocide streamed across the Rwanda-DRC border at Lake Kivu. From this moment the Kivu region became one of the main stages for the African Great War and the aftermath of conflicts lasting through today. Hundreds of thousands of refugees and internally displaced Congolese settled in the rural areas surrounding the capital of Bukavu in the first years of the wars. The groups were a conflicting mix of victims of the genocide, *génocidaires,* or the perpetrators of the genocide including remnants of the Rwandan army in power at the time of the genocide, and Congolese fleeing violence in their home villages (Stearns 2011). As one of the epicenters of much of the conflict and violence in DRC over the past two decades, South Kivu's infrastructure, health and school systems were ravaged during the height of the wars. Re-investment into those systems started in recent years as NGO and government strategies have increasingly shifted from delivery of emergency humanitarian aid to longer-term development strategies (see chapter 9).

Both qualitative and quantitative research for this dissertation took place in three health districts of South Kivu province: Idjwi, Katana and Miti Murhesa (see chapters 6, 7, and 8). The CCT intervention took place on Idjwi Island and the other districts were control areas in our quantiative study. The three districts are situated near the provincial capital of South Kivu, Bukavu. Idjwi health district is a densely populated island 40 km long and 12 km at its widest point; it sits in the middle of Lake Kivu and is home to approximately 220,000 people (Thomson et al. 2012). Idjwi island health district is located about one hour by speed boat from the port of Bukavu (Southern tip of Lake Kivu) and two hours from the port of Goma (Northern tip of the lake), the provincial capital of North Kivu. However this fast transport service is too expensive for local populations (50$ USD per one way passage) and used mostly by foreign NGO workers and Congolese elite traveling between Bukavu and Goma and not the island. Most of the local population moving to and from the island travels with local fishermen who fill their motorized, wooden pirogues with passengers and brave the often rough lake waters charging around 1-2$ USD per person. Katana and Miti Murhesa health districts are 1-1.5 hour's drive from Bukavu along varying quality roads, with some villages only reachable by foot. Aside from Bukavu and the peri-urban center of Kavumu in Miti Murhesa, an hour's drive from Bukavu, there is almost no other urban center in the study area. Pockets of permanent commercial buildings or markets are smattered throughout rural areas but services are sparse and any large agricultural sales for profit take place closer to Bukavu or at the ports in Idjwi en route to Bukavu or Goma.

Katana district, on the mainland, received heavy humanitarian intervention and aid in the past which could explain comparably better district health indicators at present. Miti Murhesa district is covered in some places by dense forest where populations within and outside the district seek shelter during periods of ongoing armed conflict. Therefore the district continues to experience frequent population movements and change. Ongoing insecurity in rural areas has pushed populations closer to the peri-urban center of Kavumu in Miti Murhesa so while land in the region is not necessarily scarce tracts of land where populations have settled are farmed intensively and in short supply. Both Katana and Miti Murhesa lie along the lake shore but extend inland encompassing diverse terrain. Lush tracts of agricultural land, some of which served as the sites of refugee camps and deadly clashes between refugees and armed groups during the wars, expand from the lake to rolling hills and the bases of towering mountains.

Individuals identify with two main ethnic groups in the study areas in South Kivu: Shi and Havu. Shi are the majority on the mainland whereas about 90% of participants from Idjwi Island identified as Havu. Ethnicity in the study areas was not a source of violent conflict although in hierarchical institutions such as the Catholic church members of the Shi ethnicity were known to be at an advantage for advancement creating a certain tension especially among the Havu of Idjwi. Most people speak the indigenous, non-written languages of Mashi or Kihavu as their first language and at least some Swahili as their second language. French is usually only spoken by individuals who have been to some years of school.

Most qualitative research for this dissertation occurred in Idjwi health district though quantitative data and at least some qualitative activities took place in all districts. As an island, the district of Idjwi was spared most of the violence and internal displacement experienced in other health districts however had an influx of refugees after the Rwandan genocide and again during conflicts on the main land (Thomson et al. 2012). Wealth on the island is difficult to measure in absolute terms; although daily life requires hard currency more than ever in all of the study areas, a lot of informal trading of goods and services continues and will not be reflected in wealth data defined in cash (*ibdi*). Thomson and colleagues reported that in 2010 the average monthly household income on Idjwi was $60.97 USD however they also reported that 83% of Idjwi residents live on less than $1 USD a day (2011, 2012). Given the drastic inequity between the highest wealth quintile ($293.25 USD average monthly income) and the lowest wealth quintile ($0.18 average monthly income) the overall average could misrepresent average income on the island (*ibid*).

Motorized transport on the island itself is extremely limited especially during the rainy season when roads can quickly become impassable for days at a time. If operational, the hospitals' ambulances can be rented but are exorbitantly expensive for local populations even for medical emergencies and therefore rarely used by anyone but NGO workers or Congolese elites.

Agricultural diseases destroying banana and manioc crops significantly changed the economic landscape of the island's communities as families struggle to feed ever-growing populations from no longer fertile and increasingly scarce lands (Thomson, Hadley, and McHale 2011). Idjwi is especially known for higher quality, less expensive health services than those found in the mainland cities of Bukavu or Goma; women often said that in addition to being much more expensive, health facilities in the big cities often send women home during labor, are crowded and providers can be abrupt and unkind. Two of the island's three reference hospitals are located directly on the shore of the lake, making access from the ports where boats arrive from the mainland very easy. Therefore, especially if women are originally from Idjwi but have married and moved to their husband's family home on the mainland, many return to the island in the weeks or months leading up to birth to take advantage of quality and less expensive maternal care services at a reputable reference hospital that can perform Cesarean sections and, if originally from Idjwi, be close to or stay with paternal kin networks in the weeks leading up to and after birth. One hospital in particular where much of the qualitative research for this dissertation took place is especially known for its quality of care and its relatively comfortable facilities.

While average wealth data is not available for the health districts other than Idjwi, in our quantitative survey respondents rated their wealth relative to their neighbors' wealth ('wealthier', 'same', 'poorer' than neighbors). **Table 3.1** shows the comparative self-rated wealth of the health districts between Idjwi (intervention district) and Katana and Miti Murhesa combined (control districts). There was a statistically significant difference in the percentage of poor households between the study areas (Katana and Miti combined) (see Chapter 10). Most households engage in agriculture although an increasing number of households do not own their own land, especially on Idjwi, and instead rent their labor out by the day for about 1$ USD or less to other farmers or larger plantations. In 2014 about 33% of participants in our survey reported their households owned no land. While in some households men do work the fields, women usually contribute a large amount of labor to household agricultural work. All three health districts are situated on the lake so some communities engage in artisanal fishing though fewer than we originally anticipated (less than 2.0% overall). As livelihood generation becomes more difficult more men leave their household for extended periods of time to work; this could contribute to the increasing number of men maintaining multiple households.

Table 3.1 Self rated household wealth, Idjwi (intervention) vs. Katana & Miti Murhesa (control zones combined), South Kivu province

Self rated household wealth	Idjwi	Katana & Miti Murhesa
Wealthier than neighbours	4.0%	1.1%
Same as neighbours	51.4%	61.3%
Poorer than neighbours*	44.6%	37.6%

*Statistically significant difference in percentage of poorest households between study areas.

The populations of South Kivu are predominantly Christian; in our 2014 survey 41.6% of women identified as Catholic, 49.34% as Protestant and 9.1% as other. As findings of this dissertation demonstrate religious values can, but do not always, play significantly into reproductive behavior and decision making. Religious dominations vary widely on their stances toward family planning and modern contraception. The Catholic church is extremely influential in local politics and just within the last years began actively promoting family planning, specifically limiting births, through "*maternité responsible"* – responsible motherhood – whereby couples should limit their births based on the financial means they have to support their children. The Church, however, only promotes periodic abstinence and is staunchly against withdrawal and any form of modern contraception. The dominant Protestant church in the region supports family planning including modern contraceptives while other conservative Protestant denominations reject any attempt at family planning, natural or otherwise, and encourage couples to have as many children as they can.

3.3.1 Gender constructs & gendered power relations

As explored in detail throughout the chapters to follow, patriarchal gendered power dynamics permeate most facets of life in South Kivu especially relating to reproduction, fertility and family planning. Gender significantly shapes individuals' social personhood, relationships within couples and kinship networks, socio-cultural norms particularly around fertility and family planning and individuals' interactions with institutions such as religion and the health system.

In our quantitative survey women were asked to name the head of household without any qualifications for how that person should be defined. Across health districts over 84.23% of women named their husband or partner as the head of household, 7.05% themselves, 5.77% their own father and 1.92% their own mother. Kinship in the study areas follows patrilineal lines with males inheriting land from their fathers. Although according to DRC law women are also entitled to inherit land from their fathers or husbands and some women are aware of this legal right, social practices still follow male inheritance. Most single, divorced or widowed women must rely on male family members for access to land. About 30% of women in our quantitative study said they personally owned land in 2014, most of them only one field. Women are expected to

marry by their early 20s if not sooner and move to their husband's family's village into a home with their husband, usually very near to the husband's father's home. Houses are not usually organized in compounds though they may be very near to each other and share common spaces. 21.5% of women in our survey reported that their husband had polygamous relationships. Polygamy in South Kivu differs from that of other SSA contexts where a husband's multiple wives co-exist in one household. While arrangements vary greatly, in the study area the husband usually maintains separate households for his wives or partners often but not always in the same geographic area (village or nearby village). Each wives' labor does not usually contribute to a common household pool of resources and childcare is not shared.

To formalize marriages the husband and his family should pay a bride price to the future wife's family, although local populations refer to this payment as *la dot* or 'the dowry.' This is an important material and symbolic exchange that is often fiercely negotiated between the two families with extended kin involved, usually uncles on either side. The *dot* is still quantified, even in urban contexts, by *vaches* or heads of cattle though cattle are now more often translated into USD dollars or other goods. As land becomes more scarce and less fertile, especially on Idjwi Island, and obtaining the necessary wealth to negotiate marriage, build a house and maintain a household are more difficult informal relationships have increased. These arrangements are often to the detriment however of women's financial security, the guarantee of kinship support and overall social cohesion (explored in more detail in Chapters 12 and 13). A woman is often subject to the influence and/or pressures of her husband's mother especially when it comes to the ideal of high fertility and recommended child care practices.

In addition, while polygamous relationships are not uncommon they still fall somewhat outside 'ideal' social norms and standard social practices. Therefore the families of women who are second and third partners of men are often less likely to receive any *dot,* sometimes not even a house for the woman. Single women or women whose partners cannot afford to build them their own house live with their own parents; children born outside of formal relationships usually stay with their mothers for the first years of life and then if the husband wishes he pays the woman's family (typically a goat). The husband's child lives in his household and, if he is already married, is cared for by his official and/or first wife. These arrangements often play into how women navigate reproduction (van der Sijpt 2014a) as explored in detail in Chapter 13.

Though women can contribute more labor to agricultural cultivation, livelihood generation and household management, socially constructed gender norms cast men as economic providers and women as domestic caretakers. As Chapters 12 and 13 illustrate, women's gendered social personhood is tied to her role as a wife which is in turn deeply tied to her role as a mother: mainly her fertility and ability to continue her husband's kinship lineage. Both male and female children

bring advantages to families so women prefer to have both boys and girls. Men affirm their social and authoritative position by providing financially and materially for their wife (or wives) and their children, though as economic circumstances worsen this role is harder to fill in practice. Patriarchal socio-cultural norms limit the ways in which women can openly exercise autonomy as men are usually the ultimate decision makers including finances, women's access to maternal health care as well as family planning and fertility and sexual relations. While women seemed to have relative freedom of movement, women indicated that any major decision would need to be run by their partners except perhaps in cases of medical emergencies in the husband's absence. As discussed below, rates of women's experiences of physical and sexual violence especially in intimate relationships with men is very high.

As with any socially-constructed role or identity, seemingly staunch patriarchal gender roles and relations in South Kivu are also fluid, often more fluid than they appear. As this chapter and subsequent chapters highlight, South Kivu is a profoundly unique, in many cases extreme and in all cases dynamic context with a multiplicity of actors and events shaping relationships from the past, in the present and any imaginings of the future. In her ethnographic exploration of gender, identity and power in the 'market of [humanitarian] intervention' in the Kivus, Silke Oldenburg captures the pervasive and potent forces that shape and influence gender in particular:

> ...war is experienced less as an extraordinary event than continuity…Experiences of prolonged decline and violent conflict erode social cohesion, yet most people…routinize the threat and uncertainty in their daily lives. (2015:317).

Although writing from the urban context of Goma, a very different material setting than the nearby but rural research areas included in this dissertation, Oldenberg traces the effects that encounters with modernity – in her context mostly foreign humanitarian actors, in my context modern contraceptives delivered by those foreign actors of the development industry – have on gendered power dynamics in this unique and uncertain space and historical moment. Gender in the Kivus is foundational to social interaction, particularly as related to women's health, fertility and reproduction, but is also changed and reproduced/reproduced and changed through powerful confrontations against a backdrop of 'routinized uncertainty' (Oldenberg 2015). These themes as revealed in research for this dissertation are explored in detail in Chapters 12-14.

3.4 Health system and health indicators: South Kivu in the context of a nation

3.4.1 Health System: structure and challenges

The health system in DRC is a tiered system with health facilities increasing in service capacity along a chain of referral. A small number of health posts are located in remote areas offering the most basic medical services such as limited medication distribution but also some contraception distribution. Health posts are only periodically staffed and refer cases, including all births, onto health centers which cover the populations of a specific grouping of villages. Reference health centers are the next level of referral followed by district hospitals (usually at least two in each health district) and then the provincial reference hospital located in Bukavu. Health centers are staffed by nurses and midwives and doctors practice at hospitals. Nationally DRC has only 1.1 physicians per 10,000 people (UNDP 2016). Transport to facilities, especially in rural, mountainous regions, is scarce and can be expensive for local populations; in some areas travel from health centers to reference hospitals in the case of obstetric emergency, for example, is only possible by foot and takes one hour or more.

Traditional birth attendants are active to varying degrees in different regions of DRC (Carlo et al. 2010, Matendo et al. 2011). Traditional birth attendants (TBAs) in Idjwi health district reported assisting with deliveries in the community until about the last five to ten years. As the risks of home births became well-known, most women preferred to deliver in health facilities despite the costs. Women who give birth at home now have an associated stigma of poverty and ignorance. TBAs also spoke of outside organizations (NGOs who conducted education campaigns) and the government 'banning' their practice in the last five years; some TBAs were enrolled in NGO programs that paid them and bought them fabric for referring and accompanying women in labor to health facilities. Despite not being paid for years, one TBA continued to accompany women to health facilities and record her work in a notebook in the hope that one day the NGO will return and pay her again. It is unclear if TBA practices are illegal in South Kivu (I could find no written law) however safe motherhood campaigns to promote health facility deliveries have all but socially 'outlawed' TBA practice. Although women might still ask TBAs to accompany them to the health center it seems TBA practice in the community in our study areas has stopped. Although the TBAs I spoke to 'missed' their work, they believed women were safer in health facilities and also feared punishment from local authorities – health providers and police – if they assisted women in the community.

In theory, maternal health and FP services should be available in all health facilities other than health posts. Health centers handle uncomplicated births and refer high risk pregnancies and/or complicated births onto hospitals; Cesarean sections can only be performed at reference hospitals. South Kivu has a relatively well functioning and popular system of maternity waiting

homes (MWHs). MWHs are group housing units located very near to most major rural hospitals. Given the challenging infrastructure and lack of/unaffordable motorized transport in most rural areas, pregnant women, especially those deemed high risk (eg first time mothers, older women, women with history of Cesarean section, etc), are referred to stay at the MWH in the last weeks of their pregnancy so that they do not face long, challenging journeys to the hospital when labor begins. MWHs are free of charge however women must provide their own food during their stay; some women are also accompanied by a younger female family member or neighbor to help with daily tasks such as cooking and laundry. Women usually receive at least two ANC visits per week during their stay and should also, in theory, receive counseling on family planning options.

There is very little government financing at the facility level; State money in the form of salaries and consumables that does trickle down to facilities is unreliable and erratic (Fox et al. 2013). Government public health expenditure as a percentage of GDP reached only 1.6% in 2014 (UNDP 2016). Fox and colleagues report that 'donor expenditures for 2008 and 2009 were equivalent to roughly 320 and 290% of total government spending on health for those years' (2013:4).

The health system is a fee for service system financed almost entirely by user fees and external donor money. As with many SSA countries, the user fee system was a binding stipulation of structural adjustment programs imposed by international financial institutions such as the World Bank and International Monetary Fund in the decades after independence to cull the 'bloated public sector', held responsible by free-market advocates for DRC's stagnated growth (Donoghue 2014). As a result, health services are extraordinarily costly and frequently result in catastrophic expenses which lead to the forced sale of family-owned land and, subsequently, complete loss of independent livelihood generation. In 2006, the DRC Ministry of Planning reported that individuals visit a health facility only once every 6-7 years (in Yates 2009).

Almost all maternal health services were payable in the study area. At the time of data collection, the first ANC visit was 1$ USD with the rest of the visits free, uncomplicated facility delivery was 10$ USD, a complicated delivery requiring episiotomy and/or stitches was 12$ USD and Cesarean sections at reference hospitals ranged from 50-150$ USD. At 10$ USD, even an uncomplicated facility delivery, would equal several months of many households' cash income; complicated births easily become catastrophic expenses requiring the sale of land, other large assets or borrowing money from social networks of support.

Various family planning interventions implemented by NGOs in the region aimed at offering free contraceptive products and services, however during field work contraception was not as of yet free and costs and availability of different methods varied by facility. Generally, a three month supply of contraceptive pills and the hormonal injection cost 1$ USD, hormonal implants, though

very rare in some settings, cost 15$ USD and tubal ligation for women cost 25$ USD. Tubal ligation in rural areas was only performed after a Cesarean section; many women who expressed interest in permanently limiting their births said they could not afford the cost of the procedure on top of the already expensive Cesarean. The intra-uterine device (IUD) was unknown to most women in rural areas though it was available in some reference hospitals for a relatively high charge. Condoms were made available free of charge at most health facilities though participants complained of poor quality (material, not necessarily efficacy) and condoms carry a stigma as they are associated with prostitutes. Stock outs of different medical supplies continued to be a challenge for some health facilities in the province especially concerning contraceptive products. In addition, health workers are not all sufficiently trained in insertion/removal of all contraceptive methods.

Health insurance schemes are available in South Kivu at participating facilities for a fee of $4 USD in rural areas and $7 USD in urban areas per year per person. Subscribers pay only a percentage of health service fees at the point of service but in general enrollment is low as most rural families do not have up front disposable income: in 2014 8.2% of households in Idjwi health district reported having health insurance and 4.3% in Katana and Miti Murhesa combined. In addition, in many cases, the cost of enrolling a large family is not cost-efficient even if illness occurs.

3.4.2 General health and development indicators

In 2016 DRC ranked 176 out of 188 nations on the UN Health and Development Index (UNDP 2016). As in many SSA nations, the DRC population is very young with more than 63.0% of people aged less than 25 years old; 41.74% of people are less than 15 years old (CIA 2017).

Table 3.2 describes the most recent development indicators for the nation and South Kivu as a province (when available).

Table 3.2 National & provincial development indicators for DRC & South Kivu province

	DRC national	South Kivu Province
Life expectancy women[a]	58.9 years	n/a
Life expectancy men[a]	55.8 years	n/a
Rural household access to drinkable water	32.2%[b]	73.5%[c]
Rural household access to electricity	0.4%[b]	12.7%[c]
Education rural women [b, c,*]		
No education	60.2%	47.1%
Primary	30.9%	36.2%
Secondary	3.2%	16.7%
Higher	0.3%	0.1%
Education rural men [b, *]		
No education	26.5%	n/a
Primary	56.8%	n/a
Secondary	14.3%	n/a
Higher	2.5%	n/a

[a] CIA 2017

[b] DHS 2014

[c] Dumbaugh and Merten 2016 (survey of rural populations in three health districts in province)

[*] Completed level of schooling; national data from DHS; provincial data from [c]

In comparison to national and provincial averages there is some variation in indicators in our study area. In 2014 a small percentage of houses on Idjwi had electricity (8.5%) especially compared to the other districts included in the study (Katana 16.6%, Miti Murhesa 23.3%) and the provincial average (12.7%). Despite the scarcity of electricity, 42.5% of participants reported owning a mobile phone in the household which was lower than Katana distrct (59.8%) but higher than Miti Murhesa (29.5%). Women's education indicators in the study area are also slightly better than national averages however still close to 50% of women in the study area had not completed primary school.

3.4.3 Sexual, reproductive and contraceptive health indicators

Despite heavy foreign investment into the health system, particularly targeting maternal health and family planning indicators, the DRC as a country and South Kivu as a province continue to struggle to improve the health of women and children. Despite relatively high rates of maternal health service use in many provinces (**Table 3.3**), including ANC attendance and facility birth,

compared to other SSA countries maternal mortality is among the highest in the world. In 2008, 50% of maternal deaths in the world occurred in 6 countries alone – DRC was one (Hogan et al. 2010). The maternal mortality ratio (MMR) in 2015 was 693 maternal deaths / 100,000 live births, infant mortality in 2014 was estimated at 58 deaths / 1,000 live births and under five mortality in 2017 is 94 deaths / 1,000 live births.

Table 3.3 Maternal health service use in DRC & South Kivu province (last pregnancy)

	DRC national	South Kivu province
Received any ANC [a,b]	85.8%	95.8%
Received at least 4 ANCs [a,b]	42.1%	42.4%
Facility birth	74.0%	92.6%
Received *no* post-natal care	58.3%	46.1%

[a]DHS 2014; national demographics for rural populations only

[b] Dumbaugh and Merten 2016

DRC is one of several SSA countries where national fertility rates have stagnated or even increased over the last years, South Kivu being one such region. Nationally, total fertility rates (TFR) from 2007-2014 stagnated at 5.4 in urban areas and increased in rural areas from 7.0 to 7.3 (DHS 2007, 2014) South Kivu has one of the highest total fertility rates in DRC at 7.7 (DHS 2014). Idjwi health district, a district included in quantitative and qualitative components of this dissertation, boasts one of the highest TFRs in the world at 8.3 (Thomson et al. 2012).

Contraceptive use is low in DRC and South Kivu province for both natural and modern methods of contraception. In 2014, while 90.6% of rural women and 97.8% of rural men had heard of at least one method of contraception, only 19% of women in union aged 15-49 reported using any contraceptive method: 8% were using a modern method and 11% used a natural method (DHS). In South Kivu province, 13.2 % of women in union aged 15-49 reported using any method of contraception, 7.9% being modern (*ibid*). While not the lowest provincial use of contraception in the DRC, South Kivu province lagged behind other provinces such as Bas Congo (37.8% any, 17.2% modern) and neighboring North Kivu (16.2% any, 11.6% modern) (*ibid*).

Table 3.4 describes DRC demographics relevant to maternal and child mortality, health and fertility rates[a]. It is of note that reported perpetrators of physical and sexual violence against women were overwhelmingly current or former spouses or partners; violence against women committed by police or military personnel was around 1% in all cases (DHS 2014). This

challenges pervasive assumptions about this context that violence against women is largely perpetrated by military or armed group members.

Table 3.4 Demographics relevant to maternal & child mortality, health & fertility rates, 2014

	DRC national	South Kivu Province
Age at first sexual intercourse	16.5 years	17.5 years
Median age at first marriage	18.4 years	18.3 years
Polygamous unions	22.0%	24.1%
Experience of physical violence, women (from age of 15)	52.0%	47.5%
Experience of sexual violence, women (last 12 months before survey)	30.0%	34.5%
Experience of physical violence during pregnancy	12.9%	10.9%

[a]DHS 2014; national demographics reported for rural populations only

A number of direct and indirect factors contribute to maternal deaths in SSA settings and DRC is illustrative of many. In 2013 Kassebaum and colleagues found that 50% of all maternal deaths were caused by unsafe abortion, post-partum hemorrhage and hypertension (2014). Other direct causes include obstructed labor and sepsis; 1.5% of maternal deaths were due to HIV across SSA but that percentage increased to 6.2% when considering Southern SSA alone (*ibid*). HIV rates in the DRC are comparably low to other SSA countries. In 2014 national prevalence of HIV was at 1.2% with prevalence higher among women (1.6%) versus men (0.6%) aged 15-49 (DHS 2014).

High parity also increases a woman's risk of maternal mortality (Alkema et al. 2016, Ganatra and Faundes 2016), especially in the context of weak health systems where each pregnancy presents multiple risks to women's lives. The measure of lifetime risk of maternal mortality, for example, accounts for parity in women's accumulated risk of maternal mortality in different settings. In 2015 a woman in South Africa, where the national TFR was 2.5, had a life time risk of dying from pregnancy or childbirth of 1:300 while in the DRC where national TFR was 6.2 that risk jumped to 1:24 (Alkema et al. 2016). Poor child nutrition, health and survival outcomes are also associated with higher birth order (Rutstein and Winter 2014).

Longer birth intervals, the primary outcome of the CCT intervention in South Kivu, also enter into maternal and child health and mortality calculations. Ganatara and Faundes (2016) demonstrate

that the evidence linking longer birth intervals to reductions in maternal mortality is mixed, however other benefits of longer birth intervals such as reduced risk of uterine rupture for vaginal births following Cesarean section and reduced risk of placental abruption are well documented; positive associations with other maternal outcomes seem likely but more evidence is needed (Conde-Agudelo, Rosas-Bermúdez, and Kafury-Goeta 2007) and causal mechanisms by which birth spacing improves outcomes are still unclear (Conde-Agudelo et al. 2012). The association between birth intervals longer than 18 months and shorter than 59 months and improved child health and mortality outcomes are clearer (Kandala et al. 2014, Setty-Venugopal and Upadhyay 2002, Conde-Agudelo, Rosas-Bermúdez, and Kafury-Goeta 2006). Based on available evidence in 2005 the WHO recommends that women wait 24 months after a live birth until their next attempt at conception citing benefits for the mother and child.

Individual and socio-cultural factors such as maternal age, marital status, mother's education and women's autonomy, access to health services including distance and cost as well as perceived need for services are also considered indirect determinants of and influences on maternal and child mortality (Gabrysch and Campbell 2009). Despite often difficult access to health services, service use rates in DRC, with the exception of post-natal care which is notably low, are generally high.

Several factors could explain the disjuncture between the often physical and financial inaccessibility of maternal health services, such high rates of service use and such poor mortality outcomes. First, while the South Kivu health system is often of poor quality heavy foreign investment in the health system especially in the years following the worst of the humanitarian crises in the region has left the health system functioning. Although provider skills can be weak and supply chains often ruptured, buildings exist, are generally staffed and at least basically supplied. The incredible amount of humanitarian aid that poured into the Kivu region over the last years (Oldenburg 2015) also included widespread community-based campaigns by NGOs and local authorities on the dangers of home birth; home births are now criminalized and punishable by local authorities and those who give birth at home are socially stigmatized as poor, backward and ignorant (see Chapter 13). Facility birth in South Kivu is now a widespread and accepted socially-cultural even gendered norm: the construction of a good, responsible and respected husband is one who ensures his wife attends ANC and gives birth in a health facility despite the chance of incurring catastrophic costs. Chapter 13 also explores how this aspect of masculinity intersects with the high cost of maternal services and some men's 'encouragement' (or forcing?) of their wives to use contraceptive methods to avoid subsequent costly births, especially if the wife required a Cesarean section in the past. Finally, the banning of TBA's practice in the community through foreign NGO programs is reinforced by the criminalization of home birth and those who assist home births at the local level. Now that TBAs are no longer a viable option,

women who might otherwise want to give birth at home for financial reasons or personal preference are left with few choices other than facility birth.

Finally, one of the most detrimental consequences of health service fees – both demand and supply side – are women's delays in care seeking in attempts to avoid incurring costly services. Many women who cannot afford services and/or fear the social consequences of costly births (such as partner abandonment) labor at home or in the MWH as long as possible before seeking health services thinking that they can avoid costly interventions at facilities. Women also are known to take indigenous medicines to speed up births which in some cases have detrimental effects such as uterine rupture. Any initial delays in seeking care at the health facility level inevitably sets off the chain of care seeking delays so that women experiencing complications arrive at higher-level health facilities with severe and life-threatening problems (such as uterine rupture and severe hemorrhage) (Gabrysch and Campbell 2009). Indeed, maternal health providers at the main reference hospital on Idjwi confirmed that most of the maternal referrals they received were advanced uterine ruptures. They blamed these severe complications on delays on two possibilities. First, the patient and/or her husband could delay or ignore all together the health center providers' referral to the hospital to avoid costly care. Alternatively, some hospital providers believed that because health facilities are compensated for each facility deliver as part of the performance-based financing scheme (discussed in detail in the section to follow) providers would delayed referring women onto higher facilities longer than they should or illegally administer oxytocin (meant only to stop post-partum hemorrhage in health facilities) to speed up contractions and attempt to deliver the baby in the facility.

3.5 Government commitment to sexual, reproductive and maternal health

The DRC government has shown repeated commitments to prioritizing sexual, reproductive and maternal health – with specific emphasis on family planning and contraceptive education and services – since the year 2000. However, given the many challenges facing the government and health system – politically, organizationally, financially and security – concrete actions resulting from those policy commitments are more difficult to track.

In 2001 the government launched the *Programme National de Santé de la Reproduction* (PNSR) (National Programme for Reproductive Health). Through its provincial satellite offices, PNSR remains the national SRH program of the DRC. Housed in the national Ministry of Health (MOH), this program prioritizes SRH activities, improved supply chains of contraceptive products, reinforced provincial institutions, financial resources for SRH and cultivate and strengthened internal and external SRH partnerships (Bertrand 2016). While more than 15 years later the PNSR maintains a presence in the MOH, severe lack in financial and human resources (in 2015 the

director of the program was responsible for 100 employees to serve all of the national SRH priorities) limits the program's ability to affect concrete change (*ibid*) especially given the size and diverse needs of the country.

As with most health financing and programming in the DRC generally, external aid from international NGOs and large health donors such support – and subsequently direct – most SRH activities at the national and provincial levels. A recent significant commitment of the PNSR and MOH was signing onto the FP2020 initiative, a global alliance of family planning advocates led by UKAid and the Bill and Melinda Gates Foundation with the express goal of increasing the number of women and girls using contraception to 120 million by the year 2020 (AFP 2015, FP2020 2017). In 2013, as part of their signing onto the initiative, the DRC MOH allocated $1 million USD to procuring and distributing contraceptive products (AFP 2015). A renewed National Strategic Plan for Family Planning 2014-2020 was also unveiled in February 2014 (Bertrand 2017). The two objectives of this most recent strategic plan, heavily influenced by the FP2020 commitment, are to: 1) increase the prevalence of modern contraceptives to at least 19% by 2020 and 2) ensure access and utilization of modern contraceptives to at least 2.1 million women by 2020 (MOH 2014). The six action points outlined to achieve these aims, with the express partnership of different government ministries, religious leaders and communities, and local and international NGOs, include obtaining active engagement and support of government, creating increased demand for contraceptives, increasing access and quality to contraceptives including improved logistics and implementing an evaluation system (*ibid*).

4. Research aim & objectives

4.1 Research aim

This dissertation aims to explore conceptions, norms and perceptions of reproduction and fertility in South Kivu province, DRC where persistently high rates of fertility and the introduction of 'modern' methods of contraception come together against a backdrop of civil, political and economic instability.

4.2 Research objectives

In order to realize the overall research aim, the following objectives guided research activities, data analysis and write up:

1. To better understand gender and generational dynamics surrounding fertility and reproduction, especially in decision making, and signs of socio-cultural transitions which affect and/or are a product of changing circumstances and the introduction of new ideas.

2. To quantitatively and qualitatively explore determinants of family planning uptake, both natural and modern.

3. To analyze current family planning initiatives and discourse from international non-governmental organizations as well as the DRC ministries of Health in relation to local perceptions of fertility.

4. To locate current reproductive narratives in colonial histories of fertility and reproduction and fertility transition theory.

5. Guiding theoretical frameworks

Theoretical frameworks rooted in the critical analysis of contemporary SRH and family planning policies, programming and evaluative research guided the framing, development, implementation and overall analysis of my research for this dissertation. These frameworks are described in the sections below.

5.1 Gender analysis & reproduction as a socially embedded process

From the inception of my research through the final write up of results, I applied a gender lens and analysis to my work. Greenhalgh asserts that:

> Gender analysis is central to reproductive research and feminist approaches, which take gender as their organizing concept… [and] allow us to broaden the intellectual agenda beyond that offered by the convention women's status approach to gender and fertility (1995:14).

I located the gendered power dynamics and structures which directly affected women's and men's experiences of fertility and SRH while also determining how gendered power dynamics indirectly informed and framed the power dimensions implicit in other structures such as the health system and international policy and programming arenas. By embedding reproduction and fertility in gendered power structures, it follows that reproduction as a lived experience is framed as 'a deeply gendered [and] socially constructed process' (Greenhalgh 1995). Contraceptive use in particular is determined by a multitude of social factors and actors. As Bajos explains:

> Contraceptive use is at the intersection of social rationales which, in a given social context, relate to reproductive norms, sexual norms, gender relations and relations with contraceptive providers (2013: 16).

The implications of using such a theoretical framework are multifold. First, I assume no universal reproductive experience. Individuals and their experiences, preferences, desires and actions are necessarily a product of the intersections of their positionalities at a particular historical moment, geographic place, socio-economic context and interactions with various other individuals, systems and institutions.

In that same vein, individual identities, preferences and levels of empowerment are fluid and ever-changing as are individual's assumptions and understandings of health, bodily functions and the roles of medicine (Nichter 2008). Just as circumstances change, so do world views. As new

information and technologies are available especially in contexts of extreme uncertainty where daily lives, including reproductive choices, are contingent on a number of shifting and converging factors at any given time, possibilities, choices and rationales also change (Johnson-Hanks 2005, Bledsoe and Banja 2002).

As Johnson-Hanks (2007) elaborates, a socially-embedded analytical framework also disrupts the backbone assumption of rational choice theory whereby individuals' preferences are necessarily revealed by their actions: that individual's reproductive intentions, actions and the outcomes of their actions are necessarily linked (see section 1.3.1.2). Johnson-Hanks (2007) reiterates that this assumptive link is itself socially constructed.

For example, dominant analytical frameworks assume that if a woman intends to use contraception but ends by having a child, she simply lacked access to contraception because her intention did not match her fertility outcome. In another example, a common SRH program outcome measure is fertility preference or how many children couples wish to have in the future; if women have more children than the couple's stated intention it is assumed that they were simply unable to meet their intention because of lack of service access. Many family planning interventions divorce individuals from their particular contexts and social networks, disregarding the nuances of fertility realities, including gendered power dynamics, in different contexts and the multiplicity of reasons why a stated intention may not match a fertility outcome. In this framework, access to and quality of services are subsequently treated as the dominant barriers to contraceptive uptake (Bongaarts, Mauldin and Phillips 1990 in Mwaikambo et al 2011) and other possible barriers are not considered.

While factors such as access and quality of contraceptive services remain important aspects of comprehensive SRH, a sole focus on these facets obfuscates other often equally important dynamics at play in reproductive decision making. In my analysis of individuals' reproductive realities, therefore, especially given the uncertainty within which most reproductive decisions are made in the research context, I necessarily understood each stage of the reproductive experience – intention, action and outcome – as a unique intersection of positionalities, power dynamics and influential actors and circumstances. Chapter 13 utilizes this type of framework in analysis.

Finally, local knowledge and conceptions of health, especially reproductive health, are central considerations in my understanding of SRH beliefs, perceptions, behaviors and 'rumors' that circulate in local populations regarding western medical technology. Many health and development interventions frame local health knowledge and beliefs as barriers to 'success.' Rumors regarding medical technology, especially contraception, are viewed as fallacies resulting

from the ignorance of populations, easily remedied with more, accurate information (Kaler 2009, Diamond-Smith, Campbell, and Madan 2012). However, as Nichter asserts:

> Rumors about contraceptives and reproduction that health professionals would deem inaccurate would not appeal to public knowledge if they did not resonate with some already existing tacit knowledge about the body - knowledge embedded in and reproduced through popular health practices and discourses about health (Nichter 1989:76).

In understanding reproduction as a socially-embedded and –constructed experience, I consider local health beliefs and perceptions as playing a valid role in the negotiation of health decisions and behavior rather than a barrier to be overcome through health information negation. Chapter 12 examines perceptions of contraceptive side effects and discusses their contextual legitimacy in reproductive and contraceptive decision making in detail.

5.2 Shortcomings of contemporary measures of gender in health research

As described in Chapter 2, the dominant discourse driving SRH and family planning intervention design and implementation is a rights-based framework. While in theory this framework considers SRH to be far-reaching and interconnected with other aspects of health, development and social justice a large focus remains on the rights of the *individual* to realize their sexual, reproductive and fertility preferences (DeJong 2000). In addition, the comprehensive intentions of the rights-based SRH framework have in practice resulted in a heavy focus on service delivery and increasing contraceptive uptake especially long-lasting methods (*ibid*, Foley 2007, Hartmann 2016).

Some scholars contend that the individual-centered and service delivery focus of 'rights-based' interventions have spilled over into the ways in which health research and intervention evaluations are conceived and conducted (Mumtaz and Salway 2009). Mumtaz and Salway critique the 'autonomy paradigm' which 1) necessarily equates women's 'autonomy' with [reproductive] empowerment and 2) uses measures of autonomy, especially in quantitative research, which are de-contextualized and oftentimes irrelevant:

> For instance, survey data from Pakistan repeatedly shows a weak or no relationship between women's reproductive health and measures of their autonomy, such as independent decision-making, unaccompanied travel and control over personal income (2009:1350).

Measures of autonomy in one cultural context do not necessarily transfer into another context. Therefore, relying on measures of a woman's freedom of movement, for example, could hide the context-specific factors which in reality have more influence over reproductive choices. Also, drawing inferences only from individual determinants of autonomy removes women from the 'webs of social relationships' in which individuals are inherently embedded (Mumtaz and Salway 2009:1355).

Glass and McAtee (2006) call for research which considers the 'stream of causation' of health behaviors and challenges to better understand 'what places people at risk for risk' (1651). The authors propose a new kind of variable, the *risk regulator*:

> *Risk regulators* index the *structured contingencies* in the social and built environment… In contrast to a causal risk factor, a risk regulator operates through multiple pathways and through complex (and potentially non-linear causal sequences over time and place (1659).

Especially useful in the context of this dissertation, Glass and McActee cite the example of the 1998 war in DRC that claimed millions of lives. Of the lives lost only 2% were directly related to violent conflict; the vast majority of lives in eastern DRC were lost to disease and malnutrition due to the collapsed health agricultural systems (2006). In this example, therefore, measuring 'classic' autonomy variables such as decision making in order to understand women's reproductive choices during and after widespread conflicts would produce results not fully reflective of the 'upstream' contributors to behavior choices.

Mumtaz and Salway (2009) and Glass and McAtee's (2006) analyses also support Johnson-Hanks' (2007) critique of the assumptive links between reproductive intentions, actions and outcomes (section 3.1). Socially-constructed conventions of individualism, usually formed in the western offices of research groups and international non-governmental organizations (INGOs), assume the causal link between reproductive intentions, empowerment actions/circumstances – such as independent decision making and control over personal income – and reproductive outcomes. Transferring presumptions about the value and measures of individuality from one context to another without regard for 'interactions of multi-layered processes that generate population patterns of health over time' (Glass and McAtee 2006:1652) could result in inaccurate research conclusions and, subsequently, contextually irrelevant, failed SRH and family planning interventions.

With these critiques in mind, I approached research and analysis as a mixed-methods endeavor. The challenge, especially in quantitative work, is how to measure complex social processes that do not qualify as 'traditional' risk factors, especially in relation to gender and gendered power

dynamics. Our quantitative analyses were rooted in our knowledge of the local context and, as especially demonstrated in Chapter 11, we used analytical frameworks which allowed more room for nuance and specificity rather than broad population generalizations (see Chapters 6, 7 and 9 for details on methodology). In addition, quantitative and qualitative data collection, analysis and write up were in constant conversation with each other so that unexpected trends could be explored through a variety of empirical lenses. As a whole, this dissertation aims to account for the multiplicity of factors – contemporary and historical, individual, systemic and intersectional – which contribute to particular reproductive health intentions, choices and outcomes.

6. Quantitative methods: longitudinal, community-based survey

The aim of the quantitative component of this research was to measure associations between particular independent variables and maternal health and family planning beliefs, behaviors, outcomes and intervention participation. Our primary outcomes were maternal health service use, uptake of modern contraception and the length of birth spacing intervals.

6.1 Study design

A two-point longitudinal survey was administered to women 15-49 years old regularly residing in one of twelve randomly selected villages in Idjwi, Miti Murhesa and Katana health districts of South Kivu province, DRC. The survey collected information on participant socio-demographics, household and individual assets, decision making, maternal health service use, perceptions and uptake of family planning, socio-cultural values and knowledge of/participation in different demand-side maternal health interventions active in some of the study areas (see **Annex A** for study questionnaire).

We developed the questionnaire using widely-validated DHS questions as well as questionnaires successfully used in the same region by our research group to investigate sexual and reproductive health behavior and beliefs of young people (Merten 2014). 5- and 3-point Likert scales were used for questions related to topics such as household decision making, food security and socio-cultural values (Likert 1932).

6.2 Study sites

The survey was conducted in three health districts of South Kivu province, DRC. For a more detailed description of the study area see Chapter 3.

Idjwi health district is a large but densely populated island on Lake Kivu, on the border of neighboring Rwanda. Idjwi sits about half way in between the urban centers of Bukavu at the Southern tip of Lake Kivu and Goma to the North. Frequent but rather insecure travel from the island to the mainland is relatively affordable for the local population. Idjwi has three main reference hospitals and a network of health centers and health posts, however dirt roads can become quickly impassable in the rainy season and motorized transport by motorcycle is unaffordable for most of the population. The island has a few vehicles that act as ambulances when functioning but ambulance service is extremely expensive.

Miti Murhesa and Katana districts are about 1-1.5 hours' drive North of Bukavu by a relatively well-constructed and maintained road. Some villages sit directly on the lake shore. Despite good access for main road traffic, most villages are located on mountainous terrain or are only

accessible along difficult roads or by foot. Both Miti Murhesa and Katana also have networks of reference hospitals, health centers and health posts however ongoing and in some areas increasing insecurity has pushed many families to live closer to peri-urban centers. Some villages in these districts are completely abandoned. While this means some populations now have better access to health services including maternal health services, there is also mounting pressure on land around these urban centers.

The provincial total fertility rate last measured at 7.7 children per woman (DHS 2014). All three sites are characterized by high fertility though Idjwi stands out with a TFR of 8.3 (Thomson et al. 2012). Use of any contraception but especially modern contraception is notably low among women and couples of reproductive age (DHS 2014) (see section 3.3).

6.2.1 Maternal health interventions by study sites

This doctoral research was embedded in a larger research evaluation of the operations and comparative effectiveness of a demand-side maternal health intervention package. The intervention package aimed to increase the use of maternal health services, including the uptake of family planning, and the practice of birth spacing through conditional services subsidizations, conditional cash transfers (CCTs) and non-monetary incentives (see Chapter 9). A supply-side, performance-based financing (PBF) scheme with specific SRH indicators was also in place in all three included health districts (Soeters et al. 2011).

While the specific aim of this doctoral project was not to evaluate the aforementioned interventions' effectiveness, results of the intervention evaluations did inform conclusions of this study. **Table 6.1** outlines the interventions by study site.

Table 6.1 Intervention components by study site

Health district	Interventions
Idjwi	✓ Performance Based Financing at the facility level for specific maternal and reproductive health indicators. ✓ With attendance of at least 3 antenatal care visits, 50% subsidization of service fees for birth in a health facility. ✓ Cash transfers to women who practice birth spacing from the 15th month after last birth.
Miti Murhesa	✓ Performance Based Financing at the facility level for specific maternal and reproductive health indicators. ✓ Non-monetary incentive of up to three locally-designed and fabricated bracelets given to women for attendance of antenatal care consultations.
Katana	✓ Performance Based Financing at the facility level for specific maternal and reproductive health indicators.

6.3 Study population

Women were invited to participate in the questionnaire if they met the following inclusion criteria:

- Aged 15-49;
- Resided regularly in a household located in one of the randomly selected villages;
- Gave birth from July 2013 – March 2014 (CCT intervention participants or non-participants).

See Chapter 3 for details on population movement which necessitated our survey teams ensured women resided regularly in the household and were not just visiting for to access services for pregnancy and birth.

6.3.1 Sample size and sampling strategy

Probability proportional to size sampling was used to randomly select twelve villages for inclusion in the longitudinal study: six villages from Idjwi (intervention), three from Miti Murhesa and three from Katana (both comparison). Random sample selection was completed using health district population data. To achieve adequate power and statistical significance in calculating outcomes and associations of the CCT evaluation we needed to interview a minimum of 645 women. In order to obtain this sample research teams visited 2,500 households on Idjwi island and 2,500 households in the comparison districts to identify 774 women, accounting for an anticipated 20% non-response and loss to follow up rate.

We engaged female community health workers (FCHW) living and working in selected villages to visit each household and identify any women aged 15-49 regularly residing in the household. FCHWs received verbal consent from the head of household to record the names of the head of

household, qualifying women's age, household maternal deaths, number of births per woman, children's ages and child deaths.

From these records the research team identified women who qualified for the survey based on the date of their last birth. FCHWs worked closely with female, Bukavu-based Congolese research assistants to re-visit households where qualifying women resided and seek consent for survey participation.

783 women were interviewed in the first round of data collection and three records were subsequently dropped before analysis as those interviewees fell outside the target age range. During the second round of data collection 576 women were located and interviewed with 465 records matched between the two survey rounds. We suspect that some women in the second round were mistaken for women included in the first round survey; this resulted in about a 40% loss to follow up between the first and second round of data collection.

6.4 Data collection

The longitudinal survey included two rounds of data collection. In November 2014 Bukavu-based, female Congolese research assistants underwent extensive training on quantitative data collection methods, data collection ethics and confidentiality. Research assistants pilot-tested the questionnaire for two days in communities not included in the actual study and located close to the training site. Pilot testing was followed up by a detailed reflection session about challenges in the field and technical difficulties with data collection software. Field research coordinators made necessary adjustments to the questionnaire before research teams were deployed into the field.

With the aid of FCHWs, research assistants visited each household where a woman meeting survey inclusion criteria resided. First round data collection in Idjwi occurred in December 2014 and in other districts in March 2015. Research assistants subsequently administered the survey to all qualifying women giving signed consent to participate in the survey. Electronic tablets equipped with Open Data Kit data collection software (opendatakit.org) were used to collect all data. Surveys were available in French, the official language of the DRC, and Swahili, the language most commonly spoken by participants across the study sites. Depending on health district, study participants usually spoke Kihavu or Mashi as their first language and Swahili as a second. Kihavu and Mashi are not, however, written languages and we were unable to translate surveys into these local languages and this is a recognized limit of our study (see Chapter 15). While we have no way of knowing what proportion of participants used which language version of the survey, from research assistant reports most women were interviewed in Swahili.

In December 2015 the same research assistants and FCHWs returned to the same households interviewed in the first round. A slightly shorter version of the same questionnaire was again administered.

Each night in the field survey team supervisors reviewed data collected during the day and when possible sent data to a secure server via mobile phone network. Senior research team members based in Bukavu and Basel also conducted daily data quality checks and immediately alerted field teams of any evident inconsistencies or concerns.

6.5 Data management & analysis

Survey data were sent directly from the field to a secure server accessible only to a limited number of research team members in Bukavu and Basel. While field work was ongoing, field supervisors conducted quality checks before sending data to the server and senior research team members conducted quality checks after data were uploaded to the server.

Data were subsequently exported from the Open Data Kit server to Stata v 14 for analysis. Maternal health service use and contraceptive uptake statistics were compared with the most recent Demographic and Health Survey (DHS) reports (DHS 2014). Descriptive statistics were calculated as percentages of the study population and multi-level logistic regression was used to determine associations between specific independent variables and attitudes towards contraception and/or contraceptive uptake. Chapters 10 and 11 present variables, quantitative statistical methods and resulting findings in detail.

7. Qualitative methods: in-depth interviews, focus group discussions & participant observation

The qualitative component of this study aimed to gain a comprehensive and in-depth understanding of women's multi-faceted realities in the research context, especially as they related to fertility, reproduction and contraception.

Qualitative field work explored a variety of maternal and SRH topics but was principally rooted in explorations of fertility and reproductive norms, gender and generational power dynamics and perceptions and use of family planning and contraception.

7.1 Participant selection

Qualitative work took place in all three health districts included in the quantitative component of the study though the majority of in-depth interviews were from Idjwi and Miti Murhesa. Purposive sampling was used to recruit participants in communities and health facilities, including maternity waiting homes. The local research team usually engaged a female community health worker intimately familiar with the communities where we worked to help us find women and other participants with experiences pertinent to those we were interested in exploring such as, for example, contraceptive users, high parity women, women who experienced home births and traditional birth attendants. We also used snowball sampling so that participants recommended we talk to others in their social networks. Formal interviews and focus group discussions were conducted and recorded with a variety of participants (**Table 7.1**). A number of informal interviews were conducted throughout field work, such as in villages, with motorcycle drivers and at health centers. This data was recorded in field notes.

Participants were 15-49 years old with the exception of a few older women from the community. Most were women with at least one pregnancy, ranging in parity from first pregnancy up to thirteen children. Interviews were also conducted with women who gave birth at home, older women, traditional birth attendants, husbands, health workers, health administrators and religious leaders. Efforts were made to gather perspectives from participants with different positionalities and experiences with fertility, reproduction and contraception.

Table 7.1 Qualitative participants

Participant	**Age range** (years)	**Parity range** (living children) [26,27]	**Number of participants (*n*)**
Women of reproductive age	18-40	0-9 children	49
Husband	30-40	2-6	3
Older women	50-88	6-9	4
Community health workers	30-50	n/a	7
Traditional birth attendants	50-65	5-13	3
Medical providers	22-50	n/a	8
Religious leaders	25-50	0-13	4
		Total participants	**78**

7.2 Informed consent and data collection

7.2.1 Informed consent, confidentiality and participant compensation

We obtained verbal and written consent to participate in the study from each participant before the start of any formal interview. The study, the participant's role and eventual use of the data were explained to the participant in a local language before participants signed consent forms. Participants who could not write gave their consent with a thumb print. See **Annex B** for study information forms and participant consent forms.

Before recording any interviews verbal consent to record was obtained from each participant. If the participant did not wish to have their interview recorded the interview went ahead with the lead researcher taking notes. Participant names were never recorded aside from on the consent forms in order to ensure confidentiality of participant identity. Participant interviews are filed electronically using a code unknown to anyone but me. All research assistants and translators involved in data collection were trained in principles of research ethics and confidentiality.

Participants were informed before the beginning of the interview that they would receive no compensation for participation. They were also made aware that they could stop interviews at any time and could refuse to answer any questions they did not wish to answer.

During participant observation in intimate settings, such as ANC sessions, births or operations, the participant was always informed of my purpose and role in a local language before I sat in on the particular service. Each participant was given the option to ask me to leave. I asked health

[26] Most women with about 4 living children had experienced at least one if not multiple miscarriages and/or child death. Participants reported up to 13 pregnancies.
[27] Women with 0 children were pregnant at the time of interview

workers to clearly emphasize that I was not a medical provider and was not there to help participants in that capacity.

7.3 Data collection

Both formal and informal interviews were conducted in the field. Interview guides for formal interviews were developed for each participant profile (ie high parity woman, health center nurse, traditional birth attendant, religious leader, etc) at the beginning of field work. As field work progressed and new, pertinent themes emerged interview guides were adapted to explore new themes. Interviews touched on a range of topics including daily life, household decision making, kinship dynamics, livelihoods, socio-cultural norms, the health system, maternal health, fertility, reproduction and contraception (see Annex C for interview guides). Data was discussed with the core research team, comprising research assistants and senior researchers both in DRC and Switzerland, throughout data collection.

Formal interviews were semi-structured and conducted in the language most familiar to the participant. After introducing the study and obtaining consent from the participant, I asked questions, the translator translated the question for the participant and then translated the participant's response back to me in French. Interviews lasted from 30-90 minutes and participants were always given the opportunity to ask questions at the end of the interview.

Informal interviews were usually conversational in nature and explored general characteristics of the study context. Many informal conversations occurred in the community or in MWHs during participant observation. Throughout the day and each evening after data collection I took field notes, often reflecting on the day's work and emergent themes with my research assistant/translator including clarification of emergent themes or socio-cultural norms with which I was not familiar.

Participant observation also occurred in villages, religious services, community family planning sensitization sessions, CCT payments (see Chapter 9 of this thesis for detailed program description), ANC sessions in health centers, MWHs and the maternity ward, delivery room and operating room of a reference hospital. I conducted participant observation both alone and with a translator, often for consecutive days in a MWH or hospital before recruiting participants for formal interviews.

I am fluent in French, one of the DRC's official languages, however the only study participants who usually spoke fluent French were health providers; other participants and some health providers were most comfortable in one or more local languages: Kiswahili, Kihavu and/or Mashi. Therefore I recruited a local translator with a nursing degree, fluent in all languages spoken in the

study area. Before field work, I trained the translator in qualitative research methods, translation and interview techniques and the principles of research ethics and confidentiality.

7.4 Data transcription and analysis

7.4.1 Data transcription

Transcription of recorded interviews was completed by myself, two local transcribers fluent in French and the three local languages spoken during interviews as well as external transcription service only fluent in French. Interviews which were particularly illustrative of research themes were noted as key interviews and assigned to the local transcribers so that all exchanges could be transcribed directly from participant responses in local languages. F4 v2012 (audiotranskription.de), an audio transcription software, and Microsoft word were used in transcription.

7.4.2 Data analysis

Data analysis was rooted in the principles and processes of grounded theory (Charmaz 2014). Grounded theory is characterized by a 'continual interplay between data collection and analysis' which leads to the development of a theory (Bowen 2008). As a social constructionist method, analysis is based on individuals' lived experiences, interactions with others and the systems around them (Charmaz 1990). My entire research process was 'grounded' in participant's processes of meaning making. As such the progression of field research and nature of analysis were guided by evolving research questions rather than narrow, pre-conceived hypotheses or theories (*ibid*).

Grounded theory is an inductive method requiring a very clear understanding of the ways in which individuals perceive and construct their realties and how those perceptions and constructions are expressed and put into language. Because field research occurred in languages different from my native language, and security limitations that prevented me from living in communities for extended periods of time, I was unable to pursue a 'pure' grounded theory approach to analysis. However, the foundational principles of the method, most importantly the inductive, cyclic collection/analytic process, guided research throughout the entirety of the research process.

Data analysis began as soon as field work began and emerging themes and trends were discussed frequently with the research teams in both DRC and Switzerland. Daily data collection and critical reflections informed the next round of inquiries as gaps in understanding were filled and new concepts explored (Charmaz 2014). Research questions evolved accordingly and both data collection and analysis within my topics of interest were fluid, heavily driven by and responsive to participant responses and reactions to my questions.

Qualitative analyses for specific papers began with broad research questions driven by related *sensitizing concepts* (Bowen 2008, Charmaz 2014). First, each interview was reviewed paragraph by paragraph and initial coding revealed recurring concepts. Several subsequent rounds of data review allowed me to categorize initial codes into larger groups and themes, eventually describing patterns, relationships, ideas and gaps relating to the broad research question initially driving analysis. Particular attention was paid to incorporating context into analysis. Finally, a more extensive review and closer reading of existing theories and literature was performed after analysis was complete in order to situate the generated theory in already-existing work in the field (Charmaz 1990).

8. Ethics, limitations & critical appraisal of research methods

8.1 Ethical approval

Quantitative and qualitative research activities for this study were embedded in the operations research protocol *Effectiveness of Conditional Cash Transfers on the use of ANC and birth spacing* which received ethical approval from the Ministry of Health in South Kivu, DRC and the ethics commission of the *Université Catholique de Bukavu* in conjunction with the operations research partner, *CORDAID.* In Switzerland, ethical approval was obtained from the *Ethikkommission Nordwest- und Zentralschweiz* (EKNZ), Basel, Switzerland (**Annex C**).

8.2 Ethical considerations & risks to research participants

Every effort was made to protect participants from negative for harmful emotional or physical consequences of participating in the study. Pregnancy, childbirth and family planning are sensitive topics; in addition, given that 47.5% of women in South Kivu reported experiencing physical violence since the age of 15 and 34.5% reported experiencing sexual violence (DHS 2014), we anticipated potential participant disclosure of experiences of violence. These considerations were strongly emphasized in research team training. Participants were surveyed/interviewed in private in a space where they felt comfortable.

Any participant requesting help or information in obtaining family planning was referred to the closest health care facility. In the case of a participant recounting any experience of sexual violence, research team members were instructed to contact field supervisors if any participant requested assistance with sexual or interpersonal violence. While we never encountered this situation during field work, research team leaders were ready to refer participants to the closest, most well-equipped health facility. While it is known that the rural DRC health system is often not well prepared to provide victims of sexual violence with appropriate services, *Panzi Hospital*, a world-renowned private hospital located on the outskirts of Bukavu specializes in treating victims of sexual violence. Project funds were available to assist referred participants in reaching this facility. A medical doctor was a lead member of the local research team and brought her knowledge of the local health system to the study; she was ready to advise the research team on appropriate referrals.

We also considered the possibility that research teams could have encountered medical emergencies in the local population during field work. It would have been impossible for the research team to provide funds/facilitate health services for every individual who fell ill in our sample population; however, the medical doctor on the research team was ready to advise on appropriate medical action if confronted with a life and death emergency situation.

Any non-medical team members concerned about a medical situation they witnessed in the field were instructed to call their supervisor who would in turn report to the medical doctor on staff. In addition, if the team believed transport to a reference health center would make a difference in a life or death situation they were instructed to contact their supervisor and supervisors were ready to use field vehicles for such transport. Field supervisors were in constant contact with the principal investigator to reflect on these possible field situations.

While clear systems were in place in anticipation of emergencies in the field, no survey or interview teams encountered serious emergencies during data collection.

8.3 Limitations of the research setting

The research setting posed several challenges to research teams and affected planning of research activities. A combination of security concerns, poor infrastructure and geographically challenging terrain made field work particularly unpredictable and expensive, with realities of the field often limiting research methods used.

South Kivu province has experienced political instability and recurring military and local armed group violence for over 20 years (see Chapter 3). The situation today remains unstable. Security was a constant consideration in planning research activities and research plans were sometimes adjusted as unforeseen situations evolved in the field. Any field movements required an official vehicle as public transport was not considered safe and some roads were not passable without four wheel drive vehicles, making field work particularly expensive. Some villages were also accessible only by motorcycle, boat or foot. A micro economy has exploded in the Kivus, a result of the presence of so many foreign NGO workers and United Nations' personnel. Therefore, in the midst of extreme poverty services such as car rentals and lodgings can be extraordinarily expensive often making research schedules less flexible than would have been ideal. Especially on Idjwi Island where only a few vehicles were operational and motorized transport was limited to motorcycles, research team movements were costly and weather-dependent.

Field activities had to end by 4pm each day as per NGO security protocol so that research teams were sure to return to lodgings well before dark. In some cases shorter work days extended the number of days required to complete field research increasing the cost of field activities. In addition, I originally intended to stay with a village family and in a MWH for an extended period of participant observation as part of my qualitative work. Due to security concerns for families I might stay with and myself this was not possible and research methods had to be adjusted.

Finally, given the general state of government institutions, administrative procedures were sometimes unclear, timelines for responses were unpredictable and rules and regulations

changed often throughout field work. With most government employees receiving low and/or unpredictable salaries, research teams were often asked to make informal payments to both traditional and government officials with jurisdiction over research sites.

8.4 Researcher positionality & reflexivity

Understanding and reflecting on my positionality as a researcher in South Kivu was and continues to be a central and ongoing process in bringing this doctoral work to fruition (Mays and Pope 2000).

I believe very little – if any – of the research process, regardless of methods used, can be pursued with pure objectivity, as researcher and participants alike are informed by their socially-constructed lenses and lived experiences (Mays and Pope 2000). In contrast to neopositivist understandings of the role and positionality of the researcher which view a 'strict dichotomy between object and subject as a pre-requisite for objectivity' (England 1994:242), I approached all of my interactions in the field – qualitative and quantitative, formal and informal – as a process of exchange rooted in the encounter of the participants' and my own socially-embedded and material circumstances.

From the inception of my research questions to my methods in the field to analysis and write up, the intersection of my identities – a white, American, university-educated, far-left leaning, unmarried, childless, native English speaker – undoubtedly informed each stage of my research process and my interactions with colleagues, research teams and participants. I am generally highly critical of mainstream health and development approaches and this perspective also affected at least my initial engagement with any health and development interventions I encountered in the community including the program we were evaluating.

I identify as a feminist researcher, centering much of my research on uncovering and understanding structural power dynamics and gender relations which independently and in conversation shape individuals' social constructions, norms and exercise of autonomy. In addition, I consider myself a scholar activist. My interest in and pursuit of research, specifically in the field of SRH, stems from a profound and highly personal desire to affect change and contribute to the realization of social justice for the most vulnerable and marginalized populations. One of my aims is to make the women, in whose names many health and development programs are pursued, more present in global health research outputs and ultimately program planning and execution. This priority certainly affects the ways I approach writing, the presentation of data and the discussion points I highlight.

During interactions in the field I was acutely aware of the various power dynamics at play between myself, research assistants, the community and participants. At the same time I recognize that as a western woman especially in a context where locals and foreigners were highly segregated and integration was difficult, there were many power dynamics and subtleties I would not recognize or be able to avoid. My presence in the field as a white woman undoubtedly fit into lingering colonial histories and power dynamics, such as participants addressing me as 'Madame' instead of the Swahili 'Dada' or 'Mama' as they would a local woman of my age. My skin color, use of private vehicles, United Nations escorts to some field sites and dress when I was not wearing local clothes exuded money, power and privilege. Especially during my work in hospital wards and delivery rooms but also elsewhere in the field people assumed I was a medical doctor. At least in initial field interactions, social distance between participants and me was extreme.

In addition, because I was not able to stay with host families in the field and accommodation options were very limited, I often stayed with Catholic religious communities and attended religious services which linked me directly with the Catholic church. I also was associated in some communities with traditional leaders and subsequently the politics and power dynamics that go with those associations. This certainly could have had an effect on respondents' reactions or interactions with me, especially in the North of the island where the chief's wife was directly involved in the administration of the cash transfer program and was an open advocate of contraceptive use (she herself used contraceptives to limit her births after the birth of her sixth child born with severe disabilities and medical problems). While most of my interviews happened in the South of Idjwi where I was not associated with the chiefdom I was usually the only white foreigner on the entire island at a given time and my movements and associations were well noted.

During formal interviews or informal conversations I attempted to at least alter these essentially un-alterable power dynamics through my fundamental approach to interactions as well as specific methodological strategies. First, in conversing with informants I emphasized their roles as experts and my role as an unknowing but curious student. Particularly because of the extreme poverty of the study area, the recurring insecurity/regional history of traumatic violence and highly sensitive nature of the topics I asked women to reflect on – including poverty, gendered power relations which sometimes led to indirect accounts of physical or sexual violence, birth, miscarriage, child and maternal mortality – I allowed myself and found it important to maintain a degree of 'empathy and mutual respect' as a feminist researcher (England 1994). England labels this intention on the part of the research as assuming the role of 'supplicant':

> Most feminist [researchers] usually favor the role of supplicant, seeking reciprocal relationships based on empathy and mutual respect...Supplication involves exposing and

> exploiting weaknesses regarding dependence on whoever is being researched for information and guidance. Thus the researcher explicitly acknowledges her/his reliance on the research subject to provide insight into the subtle nuances of meaning that structure and shape everyday lives. Fieldwork for the researcher-as-supplicant is predicated upon an unequivocal acceptance that the knowledge of the person being researched…is greater than that of the researcher. Essentially, the appeal of supplication lies in its potential for dealing with asymmetrical and potentially exploitative power relations by shifting a lot of power over to the researched (1994:243).

While I do believe this general approach to research helped reduce some distance in the field, participants' assumptions undoubtedly affected the ways in which they behaved around me and constructed their responses to my questions.

In addition to a general lens through which I approached my relationship with participants, I also employed deliberate methodological strategies to carve out spaces for less biased interactions. First, I intentionally visited most field sites for shorter stays but over multiple visits. I found that leaving a site with the promise to return and then following through on that promise created a certain level of trust and investment between myself and participants. In addition, I tried to engage in at least one but usually several days of participant observation at different sites, making myself, my familiarity with the research context, my local language skills (albeit limited) and my interests known to participants before attempting any formal interviews.

Despite language barriers, I did some of this work on my own without a translator so that my interactions with women were direct and unmediated. While engaging with women at MWHs has some disadvantages, it was an environment conducive to relaxed, informal interactions as I was able to go about daily life with participants such as going to medical appointments, the market, cooking and eating together. I found interviews that occurred after one or more days of these types of informal but highly personal interactions to be more conversational in nature, detailed and open.

Finally, I struggled on a daily basis with the larger ethical implications of my presence in the field, in the region and in the health and development industry overall. While I do believe my work makes important contributions and could help drive more relevant and efficient initiatives in future, my use of resources, blatant privilege including the ability to evacuate the area in the case of a natural disaster or violent conflict and the lack of tangible deliverables I brought to the communities in which I worked weighed on me heavily and on some days affected my ability to complete field work. During both quantitative and qualitative field work I set up regular 'check-ins' with research teams to discuss any issues related to field work. These were meant to be open

and safe spaces for research teams to express concerns or ask questions and we also had anonymous submission of comments at different points throughout field work. I did not, however, institute any formal reflections or support processes for research team members who might have been distressed by stories in the field. In Chapter 3 I reflected on the ways in which I observed local Congolese, mostly my colleagues from urban centers, process violent events that occurred during my research periods. While I did not notice any outward signs of distress during field work it is entirely possible that work had an unseen impact on local research teams; in future field work I would prioritize structured reflection and support sessions as well as support strategies for any field worker distressed by encounters in the field.

As mentioned, participants were told they would not receive compensation for interviews and for the most part this was honored. On two occasions however, towards the end of my field work, I struggled deeply with some of the stories women shared. While I did not go as far as to pay for medical services – though I was greatly tempted – I did have a research assistant give money to a particularly poor single mother and I purchased salt, flour and soap for interviewees during my last field visit, which was then distributed by a trusted local informant.

A constant process of reflection has been essential in completing my research and write up and the analyses in the following chapters should be read with the realities of field work and my own positionality in mind.

9. Evaluating the comparative effectiveness of different demand side interventions to increase maternal health service utilization and practice of birth spacing in South Kivu, Democratic Republic of Congo: An innovative, mixed method approach*

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* Published in BMC Pregnancy & Childbirth 2017 17:212 doi: 10.1186/s12884-017-1396-3

ABSTRACT

Background In this protocol we describe a mixed methods study in the province of South Kivu, Democratic Republic of Congo evaluating the effectiveness of different demand side strategies to increase maternal health service utilization and the practice of birth spacing. Conditional service subsidization, conditional cash transfers and non-monetary incentives aim to encourage women to use maternal health services and practice birth spacing in two different health districts. Our methodology will comparatively evaluate the effectiveness of different approaches against each other and no intervention.

Methods/Design This study comprises four main research activities: 1) Formative qualitative research to determine feasibility of planned activities and inform development of the quantitative survey; 2) A community-based, longitudinal survey; 3) A retrospective review of facility records; 4) Qualitative exploration of intervention acceptability and emergent themes through in-depth interviews with program participants, non-participants, their partners and health providers. Female community health workers are engaged as core members of the research team, working in tandem with female survey teams to identify women in the community who meet eligibility criteria. Female community health workers also act as key informants and community entry points during methods design and qualitative exploration. Main study outcomes are completion of antenatal care, institutional delivery, practice of birth spacing, family planning uptake and intervention acceptability in the communities. Qualitative methods also explore decision making around maternal health service use, fertility preference and perceptions of family planning.

Discussion The innovative mixed methods design allows quantitative data to inform the relationships and phenomena to be explored in qualitative collection. In turn, qualitative findings will be triangulated with quantitative findings. Inspired by the principles of *grounded theor*y, qualitative analysis will begin while data collection is ongoing. This “conversation” between quantitative and qualitative data will result in a more holistic, context-specific exploration and understanding of research topics, including the mechanisms through which the interventions are or are not effective. In addition, engagement of female community health workers as core members of the research team roots research methods in the realities of the community and provides teams with key informants who are simultaneously implicated in the health system, community and target population.

9.1 Background

Increasing women's access to quality health services forms a cornerstone of many health programs in developing countries. However service utilization along the spectrum of maternal health care, especially in sub-Saharan Africa (SSA), remains low (Wang et al. 2011). Numerous recent publications explore barriers to access and utilization of services (Downe 2013, Gabrysch and Campbell 2009, Mathe, Kasonia, and Maliro 2011, Montagu et al. 2011, Moyer and Mustafa 2013, Simkhada et al. 2008, Fort, Kothari, and Abderrahim 2006, Stephenson et al. 2007a) demonstrating that in a variety of contexts these questions remain unanswered and highly relevant.

Demand side health interventions are implemented in different ways and aim to incentivize individuals to access particular maternal health services or adopt certain behaviors (Murray 2014). Conditional cash transfers (CCTs) were first implemented in Latin American countries as a kind of "social safety net" – regular cash payments were targeted at poor families who complied with "multiple conditionalities" (Ranganathan and Lagarde 2012) such as children's school attendance, participation in health information sessions and medical check-ups (Ranganathan and Lagarde 2012, Lagarde 2009) . In recent years CCTs won the endorsement of the World Bank (Freeland 2007) heralded as solutions to reducing cost barriers to health services by correcting for "market failures" (Ensor and Cooper 2004). CCTs are increasingly used in SSA but, unlike their Latin American predecessors, usually do not target the poorest households and tend to offer one off payments for adoption of a specific health behavior, such as uptake of a single maternal health service, as opposed to ongoing payments for meeting various conditions (Ranganathan and Lagarde 2012). Despite recent growth in popularity for these interventions in SSA few high quality studies have been carried out to evaluate the feasibility or effectiveness of CCTs as a strategy in different SSA contexts, especially relating to uptake of maternal health services (Murray 2014, Ranganathan and Lagarde 2012, Lagarde 2009).

In this protocol we describe a mixed methods study in the province of South Kivu, Democratic Republic of Congo (DRC) evaluating the effectiveness of different demand side strategies, including CCTs, to increase maternal health service utilization and the practice of birth spacing. We used an innovative data collection strategy by engaging female community health workers (FCHWs) as part of our survey team. There is limited reporting on FCHWs as data collectors across settings (Andrews et al. 2004, Hill, Bone, and Butz 1996, Tomlinson et al. 2009). Our study will contribute to the literature exploring demand side interventions while also evaluating contributions of FCHWs as integral members of a research team. Findings on our methodological approach as well as quantitative and qualitative study results will be reported in future publications.

9.1.1 Context

The DRC – with a population of about 78 million people spread over 2.3 million sq km – claims one of the highest maternal mortality rates in the world at 846 maternal deaths / 100 000 live births (DHS 2014). After a 2015 mandate the country went from 11 to 26 administrative provinces however South Kivu province where research took place was not affected by this change. Each province is further organized into *zones de santé* (health districts) – geo-political divisions with separate health governing structures under the direction of each corresponding Provincial Department of Health.

The province of South Kivu is located in the eastern region of the DRC, bordering the countries of Burundi and Rwanda. The region erupted in conflict in the wake of the Rwandan genocide in 1994 and ensuing years of civil unrest and regional wars claimed an estimated 5.4 million civilian lives and resulted in millions of internally displaced people (IDP)(Bartels et al. 2013). The region remains unstable with IDP and refugee camps still in operation and growing, most recently due to political unrest in Burundi. Extremely high rates of sexual violence have come to characterize the region as insecurity stemming from ongoing armed conflicts as well as the largely unsupported reintegration of former members of armed groups into civilian life continues to affect the health, livelihoods and well-being of communities (Wolfe 2015).

According to the most recent Demographic and Health Survey 2014 (DHS), most households in South Kivu earn their living in agriculture. 20% of women have no education and the median number of years of education completed by women is 2.7 (DHS 2014). 95.8% of South Kivu women received at least one antenatal care (ANC) consultation during their last pregnancy, 92.4% of women reported delivering their last child with a skilled attendant and 7.9% of women in a relationship use a modern method of contraception (DHS 2014).

The health system in DRC is a tiered system beginning with the most basic health structures offering limited services and increasing in service capacity along a chain of referral. A small number of health posts are located in remote areas offering the most basic medical services. Health posts refer cases, including all births, onto health centers which cover the populations of a specific grouping of villages. Reference health centers are the next level of referral followed by district hospitals and then the provincial reference hospital.

The health system is a fee for service system financed almost entirely by user fees and external donor money. There is very little government financing at the facility level; state money in the form of salaries and consumables that does trickle down to facilities is unreliable and erratic (Fox et al. 2013). Transport to facilities, especially in rural, mountainous regions, is scarce and expensive

and some health centers are only reachable by one hour or more on foot. Stock outs continue to be a challenge for some health facilities in the province. Health insurance schemes are available in South Kivu at participating facilities for a fee of $4 USD in rural areas and $7 USD in urban areas per year per person. Subscribers pay a fraction of health service fees at the point of service but in general enrollment is low.

Weak central and local governance spread thin by distance, lack of infrastructure and difficult terrain, varied regional economic development, ongoing conflicts and the patchwork presence of development organizations are probable causes of notable inter- and intra-provincial differences in health outcomes, including maternal health service utilization . For example, the 2014 DHS reports that over 90% of women in South Kivu province delivered their last child with skilled health personnel (DHS 2014). In contrast, a 2012 representative community-based survey of one health zone in South Kivu included in our evaluation reports delivery with skilled health personnel at only 66% (Thomson et al. 2012).

9.1.2 Study settings

This study takes place in the health districts of Idjwi, Katana and Miti Murhesa. The three districts are situated near the provincial capital of Bukavu, an urban center on the border of Rwanda at the Southern tip of Lake Kivu. South Kivu has one of the highest total fertility rates in DRC at 7.7 (DHS 2014). The health district of Idjwi is a large island, 40 km in length and 11 km at its widest point (Thomson, Hadley, and McHale 2011). Idjwi is located about 1 hour by speed boat from the port of Bukavu and motorized transport on the island is extremely limited especially during the rainy season when roads can quickly become impassable for days at a time. Miti Murhesa and Katana are 1-1.5 hour's drive from Bukavu along varying quality roads, with some villages only reachable by foot.

It is important to note that the three districts have distinct characteristics which could affect health outcomes and will be considered in our final analyses. As an island, the district of Idjwi was spared most of the violence and internal displacement experienced in other health districts. However, logistical challenges of delivering health supplies and motivating health personnel to work on the island are constant challenges to providing care. In addition, agricultural diseases destroying banana and manioc crops significantly changed the economic landscape of the island's communities as families struggle to feed ever-growing populations from no longer fertile lands. Katana district received heavy humanitarian intervention and aid in the past which could explain comparably better district health indicators at present. Finally, Miti Murhesa district is covered in some places by dense forest where populations within and outside the district seek shelter during

periods of ongoing armed conflict. Therefore, the district continues to experience frequent population movements and change.

9.2 Intervention

Cordaid, a Dutch non-governmental organization (NGO) with a history of health and development programming in eastern Congo, runs facility-based, supply-side financing interventions in the zones implicated in our study. Despite expansion of performance-based financing (PBF) to all public health facilities in the implicated health districts NGO program managers noted low uptake of the recommended number of antenatal care (ANC) visits and family planning (FP). Aiming to improve these and other indicators, *Cordaid* implemented a demand-side program in two health districts in South Kivu province to complement ongoing PBF activities. Different demand side strategies are used to incentivize women to access maternal health services and practice birth spacing in two health districts in the study area.

9.2.1 Conditional user fee subsidization & conditional cash transfers

In the health district of Idjwi women who attended at least three ANC appointments received a 50% subsidization of user fees for a birth in a public health center or hospital. This *conditional user fee subsidization* covered both uncomplicated and complicated (episiotomy or cesarean section) births. To receive the subsidy women presented a standardized ANC card to the birth facility proving 3 ANC visits during pregnancy within the health district. Unsubsidized facility fees for an uncomplicated birth are officially posted as $10 USD, birth with episiotomy $12 USD and cesarean section births $40 USD but could vary by facility due to facility-specific initiatives and/or informal charges. Fees for medications, additional hospitalization days or electricity surcharges vary between facilities and were not covered by the subsidization program. The most popular insurance scheme in the region, *La Mutuelle,* organized by the Catholic church but open for subscription to anyone, typically pays 20% or 50% of birth fees depending on type of subscription, at participating facilities. Therefore, if a woman participated in the subsidization program and was a member of the health insurance scheme at the 50% level she paid no birth fees at facilities in the insurance scheme network.

In this same health district, beginning 15 months after their last live birth, women could register to participate in a *conditional cash transfer* (CCT) program. Local NGOs registered women and provided community education sessions on the benefits of family planning and birth spacing. Program participants were eligible to receive cash transfers every three months that they practiced birth spacing (did not deliver another child) from 15 months up to 27 months after their previous live birth. While women were encouraged to adopt a modern method of contraception, contraception use was not required for program participation.

The amount of the cash transfer increased incrementally for each three month period. If a full 27 months of spacing between last live birth and next live birth were respected participants should have received up to $38 USD. **Table 9.1** shows the payment schedule by months of birth spacing. The intervention's driving principle was the WHO recommendation that women plan at least 24 months in between last live birth and next attempt at conception (Marston 2006).

9.2.2 Non-monetary incentives

The second intervention, implemented in the health district of Miti Murhesa, offered women a *non-monetary incentive* (a locally designed and fabricated bracelet) for each ANC appointment they attended for up to three appointments total. Women received a different color bracelet for each ANC appointment.

The health district of Katana served as a comparison group with no demand-side financing interventions implemented by the NGO.

Table 9.2 describes intervention components by health district.

In 2014 the Swiss Tropical and Public Health Institute, a public and global health research and teaching institute associated with the University of Basel in Switzerland, was engaged by *Cordaid* to conduct an evaluation of the comparative effectiveness of each intervention arm and the interventions' acceptability in the local communities.

9.3 Research Aim & Objectives

This study evaluates the effectiveness of non-monetary incentives, conditional user fee subsidization, and CCTs on the utilization of maternal health services including uptake of family planning and their influence on the practice of birth spacing.
Specific study objectives were:

1) *To measure the effect of user fee subsidization of facility deliveries conditional on attendance of 3 ANC visits on complete ANC attendance, institutional delivery and post-natal care (PNC).*
2) *To measure the effect of non-monetary incentives linked to attendance of ANC consultations on completion of at least 3 ANC visits and institutional delivery.*
3) *To analyze the comparable effectiveness of conditional user fee subsidization and non-monetary incentives on completion of at least 3 ANC visits and institutional delivery.*

4) *To measure the effectiveness of CCTs on the practice of birth spacing and utilization of contraception (modern and traditional methods).*
5) *To establish profiles of program participants, non-participants and drop-outs and better understand intervention coverage.*
6) *To explore community members' perceptions and acceptance of program interventions.*

9.4 Methods

9.4.1 Study Design

This study is a quasi-experimental, mixed methods intervention evaluation comprising four main research activities:

1. Formative research phase employing qualitative methods to determine feasibility of planned research activities and inform development of quantitative survey;
2. Community-based, longitudinal survey;
3. Retrospective review of facility records;
4. Qualitative exploration of intervention acceptability and emergent themes, informed by quantitative results.

9.4.2 Study population

Quantitative survey:

- Women aged 15-49;
- Reside regularly in a household located in one of the randomly selected villages;
- Program participants and non-participants who gave birth from July 2013 – March 2014.

Qualitative (informal interviews, participant observation, in-depth interviews):

- 15 years or older;
- Regularly reside in a household located in one of the randomly selected villages;
- Pregnant or recently delivered women;
- Program participants and non-participants ;
- Other community members including husbands/partners, health workers, and community, traditional and religious leaders.

9.4.3 Sample size and sampling strategy

9.4.3.1 Longitudinal Study

Twelve villages were randomly selected using probability proportional to size: six from Idjwi, three from Katana and three from Miti Murhesa. Selection was based on existing health district population data. Each household in each of the twelve villages was approached for permission to identify and recruit women between the ages of 15-49 who regularly reside in the household and who gave birth from July 2013 – March 2014 for participation in the longitudinal survey.

In order to measure a 20% increase in the number of women who practice 24 months of birth spacing from previous live birth to next live birth at 80% power, minimum sample size was set at 645 participants. Provincial ministry and health facility data from 2013 suggested we would need to visit approximately 2,500 households on Idjwi (main intervention site) and 2,500 households in the comparison areas to identify at least 450 women in the full intervention villages and 450 women in the comparison area villages meeting our eligibility criteria. This sample exceeds our minimum sample and accounts for anticipated 20% non-response and loss to follow up.

9.4.3.2 Retrospective review of facility records

Records of all women attending ANC in the second week of December 2012 (before implementation of the intervention) were taken from ANC registries at each health facility connected to the randomly selected villages from the longitudinal study. The same process was repeated for women attending ANC in the second week of December 2014 (two years after intervention implementation).

Assuming a prevalence of .5 of at least three ANC visits in the control group a sample of 93 women from each intervention arm allowed detection of 20% difference of completing at least 3 ANC visits.

9.4.3.3 Qualitative Exploration

We conducted in-depth interviews with 40 women from the CCT intervention district and 10 women from the non-monetary incentive district. (Francis et al. 2010, Guest, Bunce, and Johnson 2006, Mason 2010). In both intervention groups a purposive sample of program participants and non-participants were recruited. Participants were recruited at health facilities, specifically maternity waiting homes, through FCHWs and then through chain referral in the community.

Health providers and administrators at the village health center, reference health center and general hospital levels were interviewed to gain system perspectives on the interventions as well as facilitators and barriers to women's use of health services.

Interviews were also conducted with male partners (n=3), older women (n=4) and religious leaders (n=4) to explore specific emergent themes in further detail.

9.4.4 Ethical approval and consent

This study protocol was approved by the Research Ethics Commission of Northwest and Central Switzerland (EKNZ), the research ethics committee of the Université Catholique de Bukavu (UCB), DRC and the Provincial Ministry of Public Health, South Kivu, DRC. The study objectives, procedures and participant rights were thoroughly explained to all individuals recruited for participation in longitudinal and qualitative data collection. Signed consent forms were required before data collection began. If participants asked for advice on family planning or other maternal health services they were referred to services already existing in the community including CHWs and facilities where services were available. No participant revealed experiencing sexual violence but the research team was prepared to refer any individuals to the nearest equipped facility should it be necessary. Finally, any participant who revealed experiencing sexual violence will be referred to the nearest facility offering appropriate services. Project money was also available to pay for costs associated with transport to treatment facilities in the case of sexual violence.

9.4.5 Data collection

The mixed methods design allowed quantitative data to inform the relationships and phenomena to be explored in qualitative collection. In turn, qualitative findings were triangulated with quantitative findings. Inspired by the principles of *grounded theory* (Charmaz 1990), qualitative analysis began while data collection was ongoing. This "conversation" between and within quantitative and qualitative data resulted in a more holistic, context-specific exploration and understanding of research topics, including the mechanisms through which the interventions are or are not effective (Brenner et al. 2014).

9.4.5.1 Longitudinal Survey

Two FCHWs living in or near each selected village were recruited and trained in basic survey methods. Using paper registers designed specifically for this study, FCHWs visited every household in their assigned village to record the number of women living in a household, their birthdate, date of death (if applicable), the number of children per woman, children's birthdates and date of death (if applicable).

Field workers were instructed to identify all women who gave birth between July 2013 and March 2014. Female surveyors living outside of the community worked in teams with FCHWs to recruit women who gave birth during target period to respond to a questionnaire. Electronic tablets with the Open Data Kit mobile data collection tool (opendatakit.org) were used to deliver questionnaires. Questionnaires were available in French or Swahili and included questions on socio-demographics, household and individual assets, decision making, maternal health service use, perceptions and uptake of family planning, cultural values and knowledge of/participation in non-monetary incentive or user fee subsidization/CCT programs.

Approximately six months after the initial survey round a selection of respondents from Idjwi district was followed up by FCHWs and a local research team member in the community. Using qualitative methods, the teams explored CCT intervention operation, participation and reception in the community.

One year after initial data collection a second round of the questionnaire was administered to the same participants of the initial survey. Participants were re-identified with help from the FCHWs and data collection emphasized ongoing intervention participation, intervention drop out, uptake of family planning and birth spacing.

9.4.5.2 Retrospective review of facility records

A local field worker visited the health facilities which serve each of the 12 villages in our sample to take pictures of ANC registers from the 2nd week of December 2012. ANC records from the previous 6 months and next 7 months were reviewed to assess each selected woman's completion of ANC care. Facility birth records were also assessed to determine if the woman delivered in the facility, was referred onto another facility or is not registered as having delivered in a facility. The same procedure was repeated for women attending ANC in the 2nd week of December 2014.

9.4.5.3 Qualitative exploration

Informal interviews with key informants such as government health administrators, health facility staff, CHWs, traditional chiefs, and religious leaders were conducted in the formative stage of research to better understand the socio-cultural landscape, state of maternal health services and service utilization in the study populations. This information informed longitudinal survey design and data collection methods.

After the first round of quantitative survey data collection, an international, French-speaking member of the research team conducted participant observation in several health facilities , maternity waiting homes and communities in the sample population to explore barriers to and decision-making surrounding service use. In-depth, semi-structured interviews with women and other actors followed.

Significant trends observed during analysis of first round survey data and participant observation informed the direction and topics of in-depth interviews. Interviews were 'in conversation' with quantitative data by exploring nuances of observed relationships between service (non)-utilization, decision making, cultural values and perceptions of intervention activities.

If participants were not fluent in French, interviews were conducted with the help of a local translator who is fluent in French and the local language of each sample population (Kiswahili, Maashi, and/or Kihavu). Translators were thoroughly trained in confidentiality, qualitative methods and translation techniques.

9.4.6 Data Analysis

9.4.6.1 Quantitative Data

Quantitative data will be managed using Excel and the ODK server. STATA v13 (Stata Corp., 2013) will be used during analysis. Chi squared tests will be used to determine associations between categorical variables and logistic regression models and survival analysis will determine predictors of target outcomes. Intervention groups will be compared to the control group and each other to determine intervention effectiveness and differences in outcomes between approaches.

9.4.6.2 Qualitative data

Qualitative data will be translated from the local language into French by the translator during the interview. The research team member conducting the interview will transcribe all interviews in French using f4 transcription software (audiotranskription.de). Atlas.ti v7 will be used to facilitate analysis (atlasti.com).

Analysis followed the principles of grounded theory (Charmaz 1990) in that analysis took place over the course of data collection. Emergent themes from initial interviews went on to inform subsequent interviews in a cyclic data collection/analytic process until saturation was reached. Thematic framework analysis using inductive reasoning drove analysis at each stage.

9.4.7 Results dissemination

The research team will prioritize the dissemination of study results not only to implementing partners and local health authorities but also to the local communities with whom the research was conducted. FCHWs involved in data collection will be approached to help with participatory community dissemination of results after analysis is complete in 2017.

9.5 Discussion

In this protocol we described an evaluation of demand side interventions aiming to increase maternal health service utilization and the practice of birth spacing in a high fertility SSA setting. This approach is innovative in that FCHWs played central roles in research teams' introduction to communities, understanding of local context and identification of potential participants during data collection. This study will address gaps in several key areas of maternal health research and program implementation in SSA including determinants of maternal health service use and the effectiveness, appropriateness and provider's/population's perceptions of different demand side interventions.

The effectiveness, suitability and potential negative consequences of demand side interventions are still highly contested (Ranganathan and Lagarde 2012). The growing popularity and enthusiasm surrounding CCTs and other demand side interventions to address specific health outcomes in SSA is not currently matched by a breadth of high quality research (Lagarde 2009) and we still have a limited understanding of the 'black box' of mechanisms through which CCTs are effective (Gaarder, Glassman, and Todd 2010). Some authors question if the conditionality of cash transfers actually prevent the poorest and most vulnerable populations from reaching program benefits and the ethics of dictating how poor individuals should spend their money is a long standing debate (Freeland 2007). This evaluation aims to fill this research gap, understanding how different demand side approaches including CCTs work as mechanisms for affecting health outcomes in a SSA context and determining who and who is not participating in programs and why. We will also solicit providers' and community members' reactions to and perceptions of this program.

In addition, many demand side interventions assume that costs of services are the main barrier to service utilization. While costs are consistently identified in the literature as barriers to maternal health service use and uptake of family planning, evidence also suggests that costs alone are not necessarily the driving factor behind non-uptake. For example, in settings where user fees for maternal health services were abolished up to 50% of women still do not access care (De Allegri et al. 2011) and determinants of service use can follow indirect causal pathways (Adjiwanou and LeGrand 2013, 2014) . The literature 1) emphasizes the importance of prioritizing exploratory and

development phases of health programming to better fit interventions to local realities and 2) pushes global health advocates to look beyond cost and understand other factors which could contribute to women's unwillingness or (in)ability to access services or participate in different programs. These explanatory factors are often hidden in various cultural and/or contextual subtleties; uncovering and understanding them necessitates inventive research strategies, such as the mixed-methods approach with an emphasis on local knowledge presented in this paper. As such, we aim to contextualize and deepen interpretations of quantitative findings through qualitative exploration of lived experiences, perspectives and challenges faced by target populations.

The longitudinal design of our study allows for a comparison of trends between both intervention arms and with the control group. We will be able to identify changes in service utilization and pregnancy status between groups over time and make more robust inferences related to effectiveness of interventions (Brenner et al. 2014). Qualitative data collection methods and themes will be in conversation with quantitative results as new associations or trends emerge. Recently a number of researchers looking at a variety of health topics in different settings have turned to mixed methods approaches (Brenner et al. 2014, Chen et al. 2015, Hansford et al. 2015, Orne-Gliemann et al. 2015) in recognition of the importance of understanding the 'why and how' of intervention effectiveness and suitability in different contexts (Brenner et al. 2014).
FCHWs are at the core of our data collection teams. FCHWs offer invaluable local knowledge of community norms, local politics and health behaviors, facilitating a positive introduction and launch of our work in study sites. Our approach also provides skills training and financial opportunities for the FCHWs working with us for the duration of the study. FCHWs are now linked with a local research consultancy subcontractor providing human resource support to our study; in future the trained FCHWs could again act as paid surveyors for other community-based studies.

This evaluation partnership reflects a growing recognition of the need to bridge the divide between research and program design and implementation in the field of global health and development. As NGOs and other programming bodies recognize the central importance of rigorous program evaluation in developing successful, culturally-sensitive and cost-effective interventions, research institutions are given the opportunity, challenge and responsibility of translating results and discussions from the academic sphere into real-world application and relevance. This includes prioritization of audience-specific dissemination of results to partners and local populations with whom research was conducted and development of program recommendations which consider real-world constraints faced by NGOs such as implementation logistics, the politics of funding and local socio-politics. It is hoped the research partnership driving this study will serve as an example and encourage funding bodies and other development NGOs to prioritize 1) adequate formative research and programme development phases before implementation goes to scale and 2)

rigorous program evaluations, especially those which consider socio-cultural acceptability of intervention components.

It is important to note that the demand side interventions described in this paper take place in the context of an ongoing supply-side, PBF intervention also implemented by the NGO Cordaid in the three health districts included in this study. While interviews with health providers, especially administrators, will undoubtedly touch on PBF our evaluation only concerns outcomes for user fee subsidization and CCTs for birth spacing. Explanations of PBF interventions, evidence for their effectiveness and their possible synergies with CCT programs can be found elsewhere (Brenner et al. 2014, Soeters et al. 2011, Witter et al. 2013) and could be a topic for further research in this context.

A more ideal approach to evaluating intervention activities would have been a mixed methods pre-/post-test study design to measure outcomes before and after intervention implementation. However, the research team was contracted to begin research activities after the start of the intervention making a baseline survey impossible. The mixed methods comparative longitudinal design with control group was chosen by the research team as a feasible alternative for producing robust results which will be helpful in informing the direction of future NGO programming. Despite this necessary compromise in approach, we believe our study in its current design will result in accurate and relevant findings.

Table 9.1 Payment schedule for conditional cash transfer

Birth spacing interval/ months after last birth	Payment to woman
15 months	$3 USD
18 months	$6 USD
21 months	$8 USD
24 months	$9 USD
27 months	$12 USD
Total possible transfer	***$38 USD***

Table 9.2 Intervention components by health district

Health district	Intervention Activities
Idjwi	• 50% subsidization of user fees for birth in public health center or hospital conditional on attendance of at least 3 ANC visits in prenatal period • Cash transfers for every three months of birth spacing (not having a subsequent child) beginning 15 months after and up to 27 months after previous live birth
Miti Murhesa	• Non-monetary incentive (locally-made bracelets) given to women for each ANC visit attended for up to three visits
Katana	• Control; no demand side intervention activities

Table 9.3 Key outcome measures

Outcome	Variable	Longitudinal Survey	Facility Record Review	Semi-structured interviews
Primary Outcomes	ANC in first trimester	**X**	**X**	
	ANC completion	**X**	**X**	
	Institutional delivery	**X**	**X**	
	Birth Interval	**X**		
Secondary Outcomes	Incidence of unintended pregnancy	**X**		
	Uptake/use of FP	**X**		
Exploratory Outcomes	Socio-demographic characteristics of participants/non-participants	**X**		
	Barriers to service access	**X**	**X**	**X**
	Influence of family members on service use	**X**		**X**
	Acceptance of interventions			**X**
	Identification of intervention mechanisms key to effectiveness			**X**
	Unintended negative consequences	**X**	**X**	**X**

10. Conditional Cash Transfers increase birth spacing among vulnerable women in DRC: Results from an impact evaluation, and critical reflections[±]

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[±]Working paper

10.1 Introduction

Prolonging birth spacing to 24 months before making an attempt to a next pregnancy can reduce the risk for perinatal, infant, and early child mortality (Conde-Agudelo, Rosas-Bermúdez, and Kafury-Goeta 2006), reduces maternal anaemia and stillbirths (Conde-Agudelo et al. 2012, Conde-Agudelo, Rosas-Bermúdez, and Kafury-Goeta 2006) and increases educational achievements of older siblings (Buckles and Munnich 2012) . Accordingly the World Health Organization (WHO) recommends not attempting a new pregnancy before 24 months after the last delivery (Marston 2006). Yet in many low-income countries, preventing unplanned pregnancies, with short birth intervals as one possible consequence, has remained a challenge. Decades of concerted policy, funding and programmatic efforts to expand family planning education and increase contraceptive uptake across settings in the global South have generated mixed results. 225 million women still report an unmet need for family planning, 8% of maternal deaths is caused by unsafe abortion and access to family planning remains a top global health priority(Kuruvilla et al. 2016). Sub-Saharan Africa (SSA) in particular is slow to show substantial increases in modern contraceptive uptake with fertility stagnating and even rising in some areas of the continent (DHS 2014, Singh, Bankole, and Darroch 2017, WorldBank 2016, May 2017)., Women 15-49 using a modern method of contraception in SSA increased by less than 5% between 2008-2015 from 23.6% to only 28.5% (WHO 2016). Novel strategies to address the stalled progress in meeting unmet need for family planning, especially for marginalized women, are in dire need.

Conditional cash transfers (CCT) have gained momentum as a potential behavior change strategy with increasing evidence that CCT are successful in promoting service use and adherence to treatment schemes in some other areas of sexual and reproductive health (SRH). For example evidence shows positive impacts of CCTs on HIV infection rates and quality and use of newborn and maternal health services (Lim et al. 2010, Hunter et al. 2014, Kahn et al. 2015, Hunter et al. 2017, Kambala et al. 2017, Yotebieng et al. 2017), but there is little research about the effectiveness of CCTs in the promotion of family planning (Voigt 2017) (Khan et al. 2016, Glassman et al. 2013, Hunter et al. 2017, Hunter and Murray 2017, Voigt 2017). The ethics of using CCTs in promoting behavior change are also highly debated (Krubiner and Merritt 2017, Voigt 2017) and particular ethical questions surrounding the use of CCTs in SRH remain. In this article we report on the effects of a CCT program aiming to lengthen birth intervals in South Kivu province, Democratic Republic of Congo (DRC).

10.1.1 Socio-political context, maternal health & family planning in South Kivu province, Democratic Republic of the Congo

South Kivu province, DRC has experienced violent conflict and political instability for more than 20 years and limited support from the central government, both of which have taken their toll on the health system (Fox et al. 2013). Despite relatively high antenatal care (ANC) attendance (88%) and facility birth rates (80%), maternal and child health indicators in DRC are among the poorest in the world: maternal mortality is estimated at 846 maternal deaths / 100,000 live births and infant mortality at 58 deaths / 1,000 live births (DHS 2014) (Hogan et al. 2010, You et al. 2015). . Use of modern contraception is particularly low even for SSA. In South Kivu 9.0% of women aged 15-49 reported using a modern method of contraception in 2014 and the total fertility rate increased from 7.4 in 2011 to 7.7 in 2014 (DHS 2011, 2014).

10.2 Intervention: Conditional cash transfer to increase the practice of birth spacing & related uptake of family planning

In January 2014 a CCT intervention was implemented in the health district of Idjwi, South Kivu province, DRC by the international NGO Cordaid. In line with WHO recommendations for birth spacing, the aim of the CCT program was to lengthen birth intervals among women who had recently delivered (Marston 2006). The full intervention, including additional intervention components such as the promotion of timely and sufficient ANC visits and facility-based deliveries, is described in detail elsewhere (Dumbaugh et al. 2017).

As part of the CCT intervention, a group of community members was trained in the benefits of birth spacing and different options for family planning. These community sensitizers conducted information sessions on a variety of contraceptive methods and potential side effects, referring interested individuals and couples to public health centers for more information and access to methods.A supply-side, performance-based financing intervention was also in place in the study area prioritizing family planning services and the contraceptive commodity supply chain (Soeters et al. 2011). At the time of research, however, family planning products were not free of charge in public health facilities.

The CCT program targeted all women of reproductive age with at least one child. Once their youngest child reached 15 months old, women residing in the intervention area (Idjwi health district) were eligible to register for the CCT program. As long as they did not give birth to a subsequent child, women could receive quarterly cash payments up to 27 months after the birth of their youngest child. Women were *not* required to use a modern method of contraception in order to enroll or benefit from the program; if a woman fell pregnant she qualified for payments until birth of the child.

During the CCT intervention another program aiming to increase access to family planning information and services for young people was in operation in both intervention and control health districts in the study (Merten et al. 2015). The intervention included provider training in provision of family planning services and fortification of the contraceptive product supply chain. In this paper we compare outcomes between all study participants residing in the intervention and control areas (intention to treat) as well as between study participants in the intervention area who enrolled in the CCT program and women in the control areas (treated). Drawing on recent qualitative research on fertility, reproduction and contraception in the study area we analyze why the CCT program only had an effect on a particular sub-group of the intervention population (Dumbaugh et al. forthcoming 2017) . To our knowledge this is the first evaluation of a CCT intervention with explicit reproductive behavior and contraceptive service uptake outcomes conducted in SSA (Mwaikambo et al. 2011, Khan et al. 2016).

10.3 Methods

10.3.1 Study population

Women aged 15-49 years old, who resided in one of the randomly selected villages in the intervention or control health zone and who had given birth between January 2013 and March 2014 ('index birth') were eligible to participate in the study.

10.3.2 Study design

A description of the full, mixed methods program evaluation including detailed sample size calculation considerations can be found elsewhere (Dumbaugh et al. 2017). In this paper we describe and report only on the quantitative data analysis.

The study area comprised three health zones: Idjwi (intervention), Miti Murhesa and Katana (control). We conducted a quasi-experimental, two-point, community-based longitudinal survey in the intervention and control areas comparing follow up to first survey results. We randomly selected six villages in the intervention area and six villages in the control area using probability proportional to size sampling. All eligible women in each of the villages were first approached by local community health workers (CHW) who were recruited to accompany the data collection. CHWs first conducted a census of all women 15-49 living in the randomly selected village and identified recently delivered mothers. For the actual data collection they accompanied the surveyors to introduce them to the respective households, but did not participate in the process to obtain consent and eventual data collection.

The CCT program was first implemented in January 2013 and the first survey was administered from December 2014-January 2015. A team of local, trained female research assistants fluent in French and at least two of the locally spoken languages interviewed 780 women who gave written consent to participate (exceeding our minimum sample size). In December 2015 we attempted to follow up the same women in the second survey round administered by the same local, female research team. 576 women gave written consent to participate in the second round; of those participants we were able to match 465 records to the original survey round. Loss to follow up between survey rounds will be discussed in the limitations section to follow.

Surveys were available in French and Swahili, the most commonly spoken local language in the study area, and administered by trained research assistants using electronic tablets. Data was sent to a secure server at the end of each day of data collection. Any data quality issues noted by data quality teams in DRC or Switzerland were flagged and immediately addressed in the field.

10.3.3 Independent & outcome variables

Information was collected on socio-demographics, , household decision making, , maternal health and family planning service use, birth spacing for the previous eight births, knowledge and beliefs about family planning and participation in the CCT intervention components.
The main outcome measure was the time period from the index birth (the birth that took place between January 2013 and March 2014) and the woman's next birth. A secondary outcome measure was use of a modern method of contraception.

10.3.4 Hypotheses

The main hypothesis postulates that women who live in the intervention area, and who participate in the CCT program have longer birth intervals over the first 33 months after a previous delivery (24 months before next attempt at conception plus 9 months pregnancy gestation). A supporting hypothesis states that more women who live in the intervention area initiate the use of contraceptives since their index birth over the time under observation. A third hypothesis proposes that the effect of the intervention differs for married and unmarried women (Dumbaugh et al. forthcoming 2017).

10.3.5 Data analysis

10.3.5.1 Frequencies, percentages, and difference-in-difference

Frequencies and percentages of socio-demographic and birth-related variables were calculated. Differences between the intervention and control sites were calculated using Chi-square tests for

binary and t-test for continuous data. For the use of family planning a difference-in-difference calculation was conducted to assess whether the use of FP increased more in the intervention area compared to the control site using the *diff* command in STATA V.14. A propensity score matching was applied to control for differences in socio-demographic variables between women living in intervention and control sites.

10.3.5.2 Length of birth interval

To assess the effectiveness of the CCT project on birth spacing two comparisons were made: 1) an intention-to-treat analysis compared all women participating in the study who lived in the intervention area with those living in the control area; 2) only women who were actually enrolled in the CCT program were compared to the women living in the control area.

It must be considered that not every woman gave birth to a subsequent child after their index birth by the time of the second survey round. In addition, the time point of the index birth varied for over a year between mothers, and the time point when the survey was conducted differed again by about one month between the study areas. Therefore we performed a time to event analysis (survival analysis) to detect differences between intervention and control areas in the time from the index birth to a next birth (the event) (Hosmer, Lemeshow, and May 2008). Accordingly, the time from index birth to the event (the subsequent birth) was measured; if no event occurred the number of days from the index birth to the end of the follow-up period was recorded. Kaplan-Meyer curves were used to graphically illustrate the occurrence of new events (the subsequent births) over time in form of a declining number of 'surviving' mothers - those who did not yet give birth again.

To test whether participation in the CCT intervention had a significant impact on birth intervals, we conducted Cox-hazard regression analyses, calculating the probability that a mother gave birth to a subsequent child after her index birth within the study observation period ranging from the date of the index birth to either the event or the end of the follow-up period. The analysis was repeated using inverse probability weights (Austin 2014), which were first calculated separately to account for loss to follow-up, then for differences in maternal characteristics between the control and study area. For this purpose we first calculated logistic regression models to identify socio-economic determinants of a) loss to follow-up and b) for living in the intervention area. Using manual backward regression variables retained in the respective multivariable models with the best model fit were then used to create a propensity score for both outcomes separately with the STATA V.14 psmatch2 command. Inverse probability weights were then calculated using the formula $W=(T/PS)+ (1-T)/(1-PS)$ (Austin 2014), with W being the weight, T the treatment variable,

and PS the propensity score. The two weights were multiplied and applied to the Cox regression analysis..

10.3.5.3 Marital status and use of family planning

In addition a logistic regression analysis was conducted to assess the association of marital status with use of modern contraceptives, and whether this was moderated by the treatment variable (intervention/control), or the time variable (first/follow-up measurement). For this purpose two- and three-level interactions were calculated. For a clearer presentation of the interactions separate binary variables were created for the time-variable (first/follow-up measurement) for (1) married women in control and (2) married women in intervention areas, then for (3) unmarried women in control and (4) unmarried women in intervention areas.

10.3.6 Ethical considerations

Written informed consent was obtained from all mothers. Institutional review boards in Switzerland and South Kivu province had approved the research protocol (Ethical Committee of Northern and Eastern Switzerland, Comité d'éthique de l'Université Catholique de Bukavu, Provincial health authorities South Kivu).

10.4. Results

10.4.1 Participant characteristics

Table 10.1 presents characteristics of the study population by study area. Mothers in the intervention area were younger, more likely unmarried, rather having a cash income, more likely engaged in agriculture, but less likely to have electricity at home and more likely poorer than neighbors. Significant differences were found between women retained in the study and those lost to follow-up (LTFU): women LTFU were younger, more likely unmarried, and less likely engaged in agriculture compared to the women retained in the study (see **Table 10.2**).

Knowledge of the CCT program in the intervention area increased markedly from the first to the follow-up visit, actually enrolled in the CCT program at one point were 39.1% (N=109). Of those women, 71.6% of women had received a payment in 2015. Just over 25% of women enrolled in the program reported that the CCTs were their main motivation for using contraception (see **table 10.2**).

10.4.2 Impact of intervention on length of birth spacing interval

The chance of having a subsequent birth during the time since the index birth until the end of the follow-up period was lower in the intervention area compared to the control area with and without inverse probability weighting. Women who enrolled in the CCT program were also less likely to have another child compared to women from the control group.

In addition, not being formally married and being older were equally associated with a lower chance of having another child, whereas having a higher number of children already was associated with a greater chance of having another child since the index birth (**Table 10.2**).
The fit of the Cox regression models was assessed by Harrel's C, Somer's D and by comparing the Akaike Index Criterion. With a model including covariates such as age, marital status, and income-related variables, Harrel's C figured in the range of 0.65 to 0.7, indicating moderate to good outcome predictability by the model; Somers' D varied from 0.33 to 0.40, indicating a moderate concordance of the observations. The fit increased if women who soon had another child and were thus less likely to be eligible for the program were excluded.

10.4.3 Impact of intervention on uptake of family planning

Women living in the intervention area were more likely to use contraceptives already at the first measurement (**Table 10.3**). There was an increase over time since the index birth in the use of family planning, but the difference-in-difference estimate was not significant for the comparison of intervention and control area, and marginally significant comparing women enrolled in the CCT program with mothers from the control area.

The use of family planning increased more among unmarried women between the two time-points (p-value for interaction term 0.049). Other interactions were not significant. If results are presented for separate terms combining marital status and intervention/control area an increase over time was observed among non-married women, significant in the intervention area (**Table 10.5** and **Table 10.6**).Results were similar if only women enrolled in the CCT program were compared with the control group (**Table 10.6**).

10.5. Discussion

Numerous interventions across SSA have resulted in evidence-based recommendations for family planning program theory and design and shown improvements in family planning and contraceptive knowledge (Mwaikambo et al. 2011). However converting theory and knowledge into actual contraceptive uptake has proven more challenging (Schölmerich and Kawachi 2016). Especially as policy makers and program implementers look to achieving maternal health targets

of the Sustainable Development Goals, new strategies to improve healthy birth practices including adequate spacing between births and modern contraceptive uptake in SSA are in demand (Marston 2006).

Analysis shows cash transfers to women conditional on their practice of birth spacing can result in prolonged birth intervals. Women in the CCT intervention area overall, regardless of their enrollment in the CCT program, were less likely than women in control areas to have a subsequent child 950 days after their last birth. Within the intervention area, however, *only* CCT participants who were not formally married showed prolonged birth intervals.

In the intervention area, we observed that family planning use increased significantly among not formally married women from first survey to follow-up. We also observe that participation in the CCT intervention resulted in prolonged birth intervals only for not formally married women. What we cannot determine is if not formally married women in the intervention area are anyways spacing their births longer than other women, regardless of their participation in the CCT program, or if the CCT program specifically reaches not formally married women.

Recent qualitative work in the research area contextualizes our finding that not formally married women spaced births longer, possibly as a direct effect of the CCT program (Dumbaugh et al forthcoming 2017). While socio-cultural norms stipulate that a woman should receive financial and social support from the father of her children and his extended kin networks (Dumbaugh et al forthcoming 2017), relationships which are not formalized by a material exchange between families can be less certain and stable even with successive fertility. Some women in this context reported that their partners were *not* in fact providing them with adequate financial and/or social support to care for their existing children. These unstable relationships motivated some women to use contraception, often clandestinely, specifically because of their partners' lack of support (*ibid*). For a woman already facing an unsupportive/uncertain/informal relationship, a subsequent birth could lead to further financial hardship for herself and her children.

First survey data on contraceptive prevalence before this time was available for Idjwi from a 2010 study (Hadley 2012), where the use of contraceptives was estimated to be 6.5% in a random sample of women 15-49 years old.

When a first survey survey had been conducted only one year after the intervention had started it is likely that family planning use had already increased. As a study from 2011 had found a rate of contraceptive use of 6.5% only we therefore re-calculated the difference-in-difference estimation conservatively assuming no difference between intervention and control districts in

the use of modern contraception at first survey, which would yield a significant difference-in-difference estimate (P-value <0.01).

The CCT payments – seen as much needed extrinsic financial incentives/support and/or the extra "push" women needed to act on an already-existing intrinsic desire to prolong birth spacing – may therefore have motivated not formally married women to prolong their birth intervals and/or use contraception, prioritizing their and their children's health over socially-constructed reproductive obligations to their partners. Given the uncertainty surrounding their marital situation and livelihoods, any potential negative consequences of refusing sex to their partner, using contraception clandestinely and/or risks of contraceptive use such as physical side effects could have been perceived as less problematic than an immediate subsequent birth (Dumbaugh, Schwarz et al forthcoming 2017). If we assume the program did specifically reach not formally married women, the questions remain, however, if program activities/messages simply did not reach women other than not formally married women, if other women face substantial barriers to prolonging birth spacing which were not addressed by cash payments or if other women are simply not interested in spacing births.

Given the overall effect on birth spacing observed in the intervention area regardless of CCT program participation it is possible there was a positive program spillover effect for non-program participants. Because family planning and contraceptive sensitization sessions were usually conducted in the community for the general public, it is highly likely that both CCT participants and non-participants received family planning information and subsequently sought out services or pursued birth spacing without actually enrolling for or receiving CCTs. Although the CCT program was introduced without requiring explicitly the use of modern contraceptives for birth spacing, information about modern methods of family planning was provided at health centers. It is also possible that some individuals in the intervention area did not realize that CCT benefits were tied both to birth spacing *and* enrollment in the CCT program; some individuals may have thought that they qualified for CCT benefits solely because of their contraceptive use.

It is also very plausible that participants in the CCT program shared information on contraception access and experiences with non-participants, possibly even encouraging non-participants to use contraception. The importance of social networks in sharing and spreading information, knowledge and experiences, especially regarding family planning and contraception, has been noted in similar contexts (Bledsoe et al. 1994, Rutenberg and Watkins 1997). As contraceptive users increased in the community and those users shared information with even a few women in their networks, the "buzz" around contraception could have grown substantially among CCT participants and non-participants alike (Rutenberg and Watkins 1997). It is difficult, therefore, to judge the extent of indirect benefits of the program to non-participants.

Because the intervention consisted of multiple activities, the direct causal link between CCTs alone and prolonged birth spacing is unclear (Gaarder, Glassman, and Todd 2010). While we assume CCTs had some notable effect on behavior change, it is also possible that concerted community education efforts and improved and increased availability of SRH services at health facilities contributed greatly to prolonged birth spacing and increased contraceptive use. Future research to determine causal links between particular intervention components and outcomes is recommended (Krubiner and Merritt 2017).

Despite their popularity as a health and development strategy, CCTs are not without their critics (Freeland 2007, Schubert and Slater 2006, Krubiner and Merritt 2017, Voigt 2017). The paternalistic undertones, even coercive nature of conditionalites, the marginalizing effects conditionalities could have on already marginalized individuals or households, problems associated with shifting household power dynamics if cash is given exclusively to women and the actual cost-effectiveness of managing and enforcing conditionalities are raised by some authors as potentially problematic (Schubert and Slater 2006, Handa et al. 2009, Das et al. 2013, Attanasio, Oppedisano, and Vera-Hernández 2015) and will be considered in our analysis.

The ethical nature of conditionalities demands serious consideration, especially in relation to CCTs targeting SRH outcomes. First, contraceptive programs in SSA are intrinsically implemented against an historical backdrop of reproductive coercion and violation, both specific to DRC (Hunt 1999) and broader waves of colonial and contemporary racist and eugenicist global population control movements (Connelly 2003). Therefore intended program outputs and potential unintended consequences of any attempt to influence individual reproductive behavior should undergo critical scrutiny to ensure that individuals' fundamental SRH rights are respected (Krubiner and Merritt 2017).

Given the infrastructural realities of South Kivu, accessing contraceptive services and the CCT program activities was not easy for many potential beneficiaries. Krubiner and Merrit assert that a population's "ability to meet and receptivity to conditionalities" (2017) are important measures in evaluating program ethics. Most CCT payments occurred at health centers and usually took the better part of a day, women had to travel to health facilities to access contraceptive information and services and modern contraceptives cost 1-15$ USD. While using a modern contraceptive method was *not* a condition for program benefits, modern contraception is proven more efficacious than natural methods in avoiding pregnancy which *was* the main condition for receiving cash payments; therefore those able to access modern methods would be at an advantage. Due to financial and opportunity costs, traveling to health facilities for reproductive health information and to receive cash payments and paying for contraceptive methods may have been more difficult

if not impossible for already disadvantaged individuals. Therefore benefiting from the program could have been harder for poorer or marginalized women.

Finally, if conditions for payments go against deeply held socio-cultural norms and/or beneficiaries are placed in socially ostracizing or physically harmful situations by fulfilling conditionalities, programs could potentially violate individual autonomy and human rights (Krubiner and Merritt 2017). Reproduction is an especially sensitive topic in this context, given its central importance to women's livelihood, social position and links to gendered power dynamics. Most women's relatively disempowered position in the household make the achievement of birth spacing largely dependent on men's attitudes; if women try to use contraception without their husband's knowledge in order to receive CCTs they could risk negative consequences such as marital conflict, financial ruin and even domestic violence.

One potential programmatic strategy which could reduce some of the ethical, financial and access questions raised above are *unconditional, labeled* cash transfers. A substantial body of literature reports on the successes of cash transfers which do not require beneficiaries to achieve specific conditionalities, but are still presented to the community and potential beneficiaries in relation to a particular public health priority (Baird, McIntosh, and Özler 2011, Lund 2011, Akresh, De Walque, and Kazianga 2013, Benhassine et al. 2013). For example, women could receive cash transfers in parallel to a community-based SRH program so that the beneficiaries are well-informed of the benefits of family planning and how to access contraception in their communities, they develop their own intrinsic desires to practice birth spacing and/or limit births and they are empowered but not forced to achieve their reproductive goals with cash transfers. Community-based distribution of cash transfers could also reduce access barriers to centralized payments that more marginalized populations may encounter.

10.6 Limitations

The research context presented some significant challenges to data collection. First, the regional security situation remained unpredictable during field work and dictated field logistics plans. Also, limited infrastructure and challenging geography, especially given the intervention site was an island, made access to some field sites difficult. Finally, our longitudinal study design was hard to implement as most participants did not have identification cards or mobile phones and were hard to identify for second round data collection. This resulted in about a 40% loss to follow up. Despite these challenges, however, we believe our study and analysis produced robust and highly relevant results.

10.7. Conclusion

CCTs to promote the practice of birth spacing in South Kivu, DRC resulted in prolonged birth intervals across the intervention area however participation in the actual intervention only showed a prolonging effect on the birth intervals of women who were not formally married. While CCTs show the potential to positively affect reproductive health behaviors, contributing therefore to the health of mothers and children, ethical considerations of the direct and indirect barriers and negative consequences of conditionalities should be considered at every stage of program design. Alternate program designs could include targeted or labeled unconditional cash transfers, thereby eliminating the possibility that conditionalities could farther disadvantage already marginalized populations and violate basic rights.

Table 10.1 Participant characteristics, intervention/control

	Intervention district (N=279).	Control district (N=186)	
Lives in intervention district	60		
Lives in control district		40	
Younger than 25 years	43.0	20.4	
Age: 25-49 years	57.0	79.6	***[1]
Married	48.0	69.4	
Cohabiting, not married	38.0	23.7	
Other, not married	14.1	7.0	***
No education	44.4	49.5	
Primary school	38.7	37.1	
Secondary school and higher	16.8	13.4	
2-5 household members	36.6	30.6	
6-10 household members	53.8	57.6	
>10 household members	9.7	11.8	
Cash income, regular or irregular	85.3	76.3	
No cash income	14.7	23.7	*
Main occupation: Agriculture	69.9	59.7	*
Employment	6.4	12.9	(*)
Other activity/occupation	23.3	26.9	**
Household has electricity	7.2	18.3	
Mobile phone in household	45.5	45.7	
Wealthier than neighbours	4	1.1	
Same as neighbours	51.4	61.3	
Poorer than neighbours	44.6	37.6	*
Has health insurance	8.2	4.3	
Has heard of the CCT program, 2014	33.2	-	
Has heard of the CCT program, 2015	70.6	-	
Ever enrolled in the CCT program until 2015	39.1	-	
Mothers enrolled in the CCT program	(N=109)		
Has received a payment until 2015	71.6	-	
Has used modern FP because of CCT program	25.7	-	

*** p-value <0.001; ** p-value<0.01; * p-value<0.05;

[1] Chi2 test for differences between intervention and control area, P-value

[2] Chi2 test for differences between LTFU and those retained in the study, P-value

Table 10.2 Comparison of maternal characteristics between mothers lost to follow-up and mothers retained in the study

	Retained in study (N=465)	Lost to follow-up (N=422)	N
Lives in intervention district	60.0	62.3	542
Lives in control district	40.0	37.7	345
Younger than 25 years	34.0	50.6	318
Age: 25-49 years	66.0	49.4*	569
Married	56.6	55.5	441
Cohabiting, not married	32.3	28	240
Other, not married	11.3	16.5*	105
No education	46.4	48	370
Primary school	38.1	33.3	284
Secondary school and higher	15.4	18.7	132
2-5 household members	34.2	41.7	293
6-10 household members	55.3	47.7	410
>10 household members	10.5	10.5	83
Cash income, regular or irregular	81.7	83.7	647
No cash income	18.3	16.3	137
Main occupation: Agriculture	65.8	49.3	514
Employment	9.0	8.4	69
Other activity/occupation	24.7	26.4***	200
Household has electricity	11.6	14.3	100
Household has no electricity	88.4	85.7	787
Mobile phone in household	45.6	42.4	348
No mobile phone in household	55.3	56.8	529
Wealthier than neighbours	2.8	4.1	26
Same as neighbours	55.4	57.5	441
Poorer than neighbours	41.8	38.5	317
Has health insurance	6.6	10.6	65
No health insurance	93.4	89.4	822

*** p-value <0.001; ** p-value<0.01; * p-value<0.05;

[1] Chi2 test for differences between intervention and control area, P-value

[2] Chi2 test for differences between LTFU and those retained in the study, P-value

Table 10.3 Hazard Ratios (HR) and 95% confidence intervals for having a subsequent child in the first 875-1079 days after childbirth between Jan 2013 & March 2014

a) Comparison of mothers living in the CCT intervention district with mothers living in the control district ('intention to treat'), and

b) Comparison of mothers living in intervention district who were enrolled in CCT program vs. mothers living in the control district ('treated').

		Crude associations			Inverse probability weighted estimates			Multivariable model		
		HR	95% CI		HR	95% CI		HR	95% CI	
a)	Control district (Reference)	1			1			1		
	Intervention district	0.65	0.47, 0.90	**	0.61	0.41, 0.89	*	0.56	0.40, 0.78	**
	Number of life births	-			-			1.18	1.08, 1.29	**
	Maternal age	-			-			0.89	0.85, 0.93	**
	No formal marriage	-			-			0.55	0.38, 0.78	***
b)	Control district (Reference)	1			1			1		
	Enrolled in CCT program	0.54	0.34,0.85	**	0.57	0.33,0.97	*	0.49	0.30, 0.80	**
	Number of life births	-			-			1.20	1.07, 1.35	**
	Maternal age	-			-			0.88	0.84, 0.93	**
	No formal marriage	-			-			0.51	0.32, 0.81	**

*** p-value <0.001; ** p-value<0.01; * p-value<0.05

Table 10.4 Difference in difference estimation for use of family planning between intervention & control districts (propensity score matching for age, nb children, education, wealth perception, farming & marriage)

	Control district	**Living in intervention area**	**P-value**
End 2014	6.4%	13.2%	0.0.020*
End 2015	7.2%	18.8%	<0.001***
Diff-in-diff		4.8%	n.s.
	Control district	**Enrolled in CCT program**	**P-value**
End 2014	8.3%	23.1%	0.0.001*
End 2015	9.0%	35.2%	<0.001***
Diff-in-diff		11.5%	0.070(*)

Table 10.5 Determinants of current use of family planning, effect modification by living in the intervention area

Assessing the effect of the intervention at endline 2015 as compared to the baseline 2014 (reference) on current use of family planning (Model 1), and assessing effect modification by living in the intervention

	Model 1			Model 2; interaction terms			Model 3, interaction terms additionally controlling for potential confounders		
	HR	95%	CI	HR	95%	CI	HR	95%	CI
Period									
Baseline 2014	1.00			1.00			1.00		
Endline 2015	1.34	0.90	1.99						
- Endline, intervention area, married#	-			1.03	0.61	1.74	1.21	0.69	2.11
- Endline, intervention area, unmarried#	-			2.56	1.27	5.15**	3.27	1.53	6.99**
- Endline, control, married#	-			0.79	0.40	1.57	1.04	0.52	2.07
- Endline, control, unmarried#	-			1.74	0.76	4.02	2.12	0.93	4.85
Intervention area									
Control area (reference)	1.00			1.00			1.00		
Intervention area	2.23	1.16	4.30*	1.92	0.98	3.75	1.80	0.89	3.65
Marital status									
Married (reference)	1.00			1.00			1.00		
Unmarried	0.67	0.50	0.90**	0.40	0.22	0.75**	0.43	0.21	0.88*
Number of life births	-			-			1.08	0.99	1.18
Higher level of education	-			-			1.84	1.28	2.66**
Age of last child (+1 month)	-			-			1.05	1.02	1.08***

Effect modification: Being married and living in the intervention area are modifying the effect of the variable 'endline 2015'. Models 2 and 3 present interaction terms showing the effect of the endline 2015 by intervention/control and according to marital status

Table 10.6 Determinants of current use of family planning, effect modification by CCT program enrollment and marriage status

Assessing the effect of CCT enrollment at endline 2015 as compared to the baseline 2014 (reference) on current use of family planning (Model 1), and assessing effect modification by enrollment in the CCT program and by marital status (Models 2&3).

Current use of family planning	Model 1			Model 2; interaction terms			Model 3, interaction terms and controlling for additional confounders		
	HR	95%	CI	HR	95%	CI	HR	95%	CI
Period									
Baseline 2014	1.00			1.00			1.00		
Endline 2015	1.42	0.84	2.41	-			-		
- Endline, CCT enrollement, married#	-			1.31	0.42	4.07	1.57	0.49	4.97
- Endline, CCT enrollement, unmarried#	-			2.64	1.43	4.88**	3.16	1.34	7.47**
- Endline, control, married#	-			0.83	0.41	1.69	0.95	0.44	2.03
- Endline, control, unmarried#	-			1.43	0.61	3.35	1.70	0.75	3.84
Participation in CCT program									
Control area (reference)	1.00			1.00			1.00		
CCT enrollement	4.82	2.15	10.79***	3.64	1.31	10.10*	3.14	1.10	8.95*
Marital status									
Married (reference)	1.00			1.00			1.00		
Unmarried	0.74	0.48	1.16	0.51	0.23	1.12	0.55	0.24	1.28
Number of life births	-			-			1.10	1.00	1.21*
Higher level of education	-			-			1.59	1.01	2.52*
Age of last child (+1 month)	-			-			1.07	1.02	1.12**

Figure 10.1 Kaplan-Meier survival estimates, probability of not having had a subsequent birth

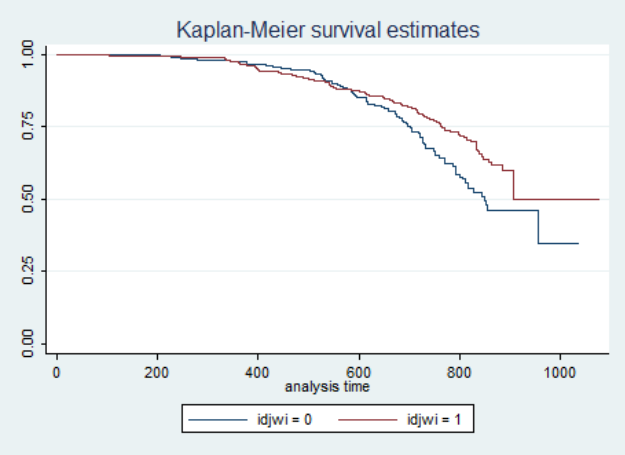
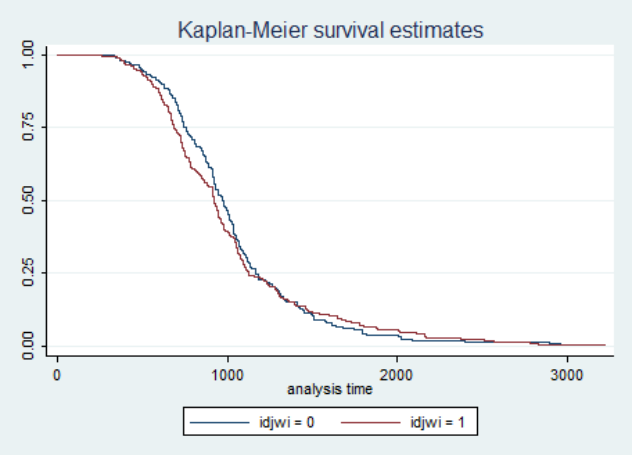
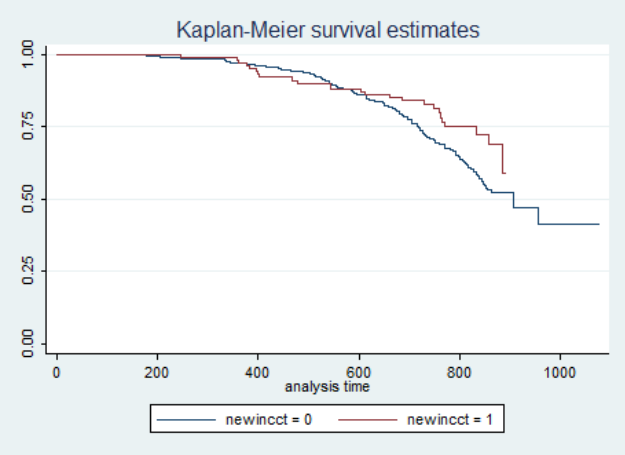
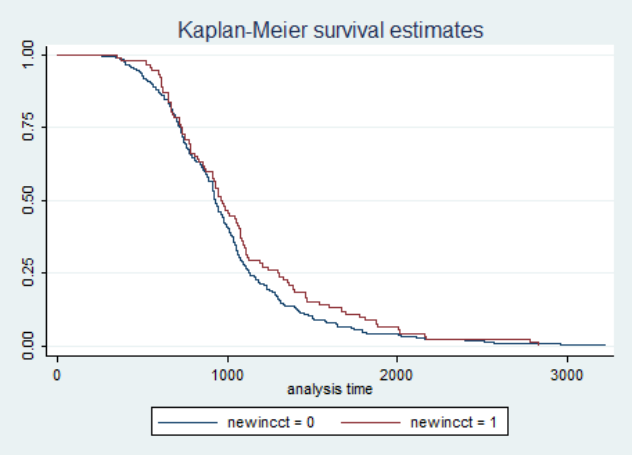
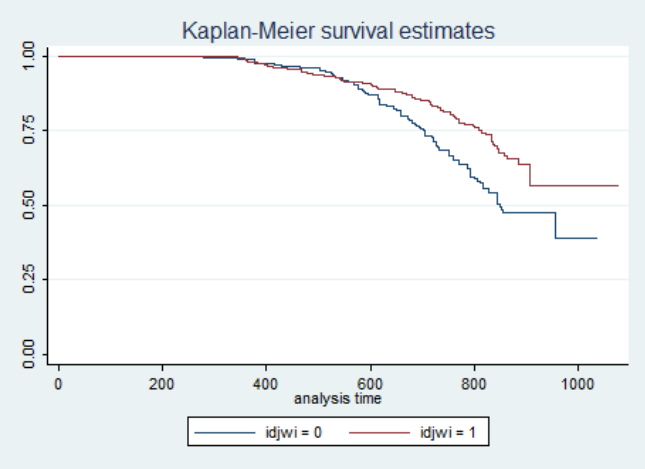
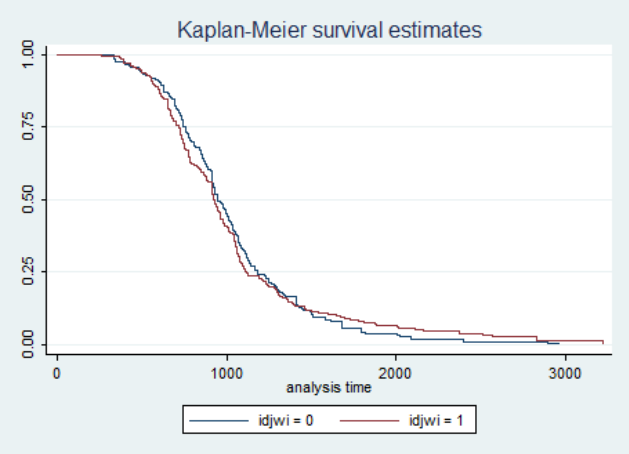
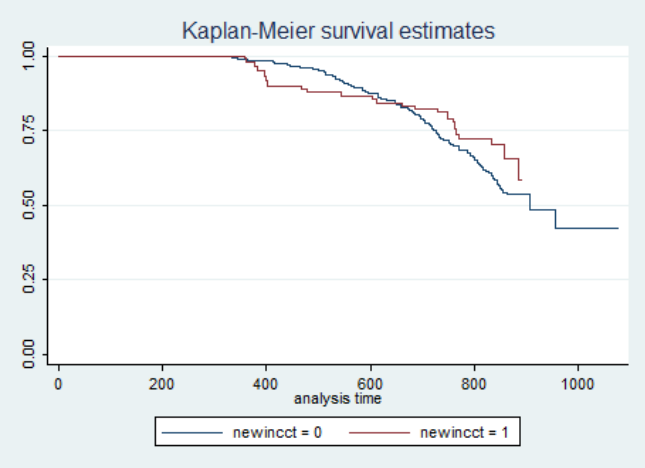
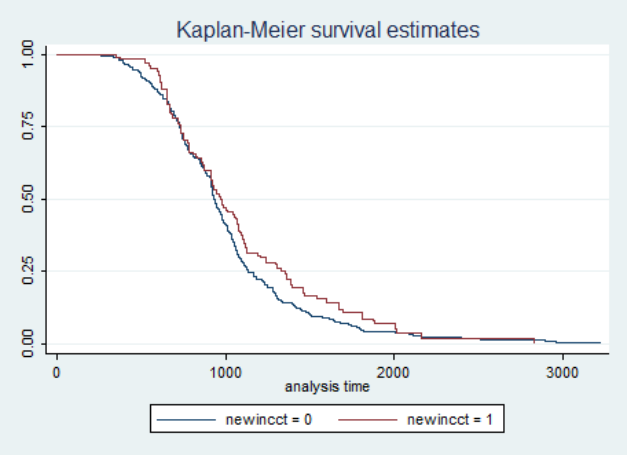
Probability of not having had a subsequent delivery after giving birth between 1.1.2013 and 31.3.2014 (eligible for participation in CCT program)	Probability of not having had a subsequent delivery after giving birth before 1.1.2013
	
	

Figure 10.2 Kaplan-Meier survival estimates, probability of not having had a subsequent birth, considering inverse probability weights

Probability of not having had a subsequent delivery after giving birth between 1.1.2013 and 31.3.2014 (eligible for participation in CCT program)	Probability of not having had a subsequent delivery after giving birth before 1.1.2013
Kaplan Meyer, Inverse Probability Weights	Kaplan Meyer, Inverse Probability Weights
	
	

11. Understanding low contraceptive uptake in a high-fertility setting using the *transtheoretical model of change*, South Kivu, Democratic Republic of Congo[¥]

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[¥]Working paper

ABSTRACT

Objectives: Identify predictors of women's contraceptive attitudes and use employing a multi-stage behavior change framework in a sub-Saharan African context.

Study design: Cross-sectional survey of recently delivered women in South Kivu province, Democratic Republic of Congo.

Results: Using multivariate logistic regression we identified predictors of women's position along the transtheoretical model of change (Prochaska 1994), reporting adjusted odds ratios (AORs). *Pre-contemplation*: average wealth (1.64 CI 1.09-2.47) and higher number lifetime pregnancies (1.14 CI 1.06-1.23); education (0.59 CI 0.39-0.88), high health service use (0.45 CI 0.27-0.77), high self-efficacy (0.60 CI 0.36-0.99) and one partner or couple desire to plan births (0.17 CI 0.09-0.33/0.08 CI 0.05-0.13) were protective. *Contemplation/preparation*: high health service use (2.13 CI 1.15-3.94) and one partner or couple desire to plan births (8.28 CI 3.97-17.30/11.42 CI 6.63-19.68) with average wealth (0.58 CI 0.36-0.92) and not in a relationship (0.16 CI 0.03-0.84) as protective. Contraceptive users (*action*): education (1.74 CI 1.02-2.97), maternal complications (1.88 CI 1.14-3.12), self-efficacy (2.19 CI 1.09-4.40/4.03 CI 2.02-8.01) and one partner or couple desire to plan births (1.78 CI 0.63-5.03/5.18 CI 2.67-10.04). *Maintenance* of contraceptive use: older (1.13 CI 1.04-1.22) and self-efficacy (3.08 CI 1.12-8.45/3.70 CI 1.36-10.07) with higher number of pregnancies as protective (0.76 CI 0.62-0.92).

Conclusions: Theoretical frameworks for behavior change help conceive contraceptive use as a step-wise process within ecological models of change. Recently delivered women along this continuum share intersections of socio-demographic and –cultural factors which could be considered in the design of more targeted, effective family planning interventions.

11.1 Introduction

Despite decades of investment in family planning across low and middle income countries (LMICs), contraceptive uptake remains about 35% lower in sub-Saharan Africa (SSA) than in other regions (WHO 2016). The Democratic Republic of Congo (DRC) illustrates this 'affront' to the optimistic expectations of family planning policies and programming: only 8.1% of women use a modern method of contraception and fertility rates are stagnant, even increasing, in certain regions (DHS 2014).

Research suggests the foundational assumptions of existing interventions in SSA are unfit to local perspectives, failing to effectively address barriers to contraceptive uptake (Foley 2007, Kodzi, Johnson, and Casterline 2010, van der Sijpt 2014a). While many health interventions are informed by theories of behavior change, few contraceptive programs follow evidence-based theoretical models (Lopez et al. 2013). Existing evaluative research is sparse and largely conducted in high income contexts (Lopez et al. 2013, Lopez et al. 2016) where barriers to contraceptive uptake differ greatly from LMICs.

Given this dearth of evidence, generally poor outcomes and the dire need to address unacceptably high rates of maternal mortality in the DRC – 844 maternal deaths/100,000 live births (DHS 2014) – we used cross sectional survey data to explore the predictors of women's contraceptive (non)use in a persistently high fertility setting. Prochaska's *transtheoretical model of change* framed our analysis and discussion (Prochaska and DiClemente 1982, Grimley et al. 1993, Prochaska et al. 1994, Grimley, Prochaska, and Prochaska 1997, Prochaska et al. 2005).

11.2 Methods

11.2.1 Context

Data was collected in three rural health districts in South Kivu province, eastern DRC. South Kivu has experienced political and civil unrest for more than 20 years. Ongoing armed conflict continues to affect civilians particularly as the ravaged and under-funded health system struggles to deliver services (Soeters et al. 2011, Thomson et al. 2012). Maternal health outcomes, including family planning, were prioritized through facility-level performance-based financing (Soeters et al. 2011). Contraceptive services are now more available, though stock outs are recurrent. The DRC national total fertility rate (TFR) remains high at 7.3 in rural areas; South Kivu surpasses that at 7.7 (DHS 2014). Idjwi health district, included in this study, boasts one of the highest TFRs in the world at 8.3 (Thomson et al. 2012).

11.2.2 Data collection

From December 2014–March 2015 we conducted a cross-sectional survey in 12 randomly selected villages. This was the baseline for a two-point longitudinal survey evaluating a conditional cash transfer intervention to increase the practice of birth spacing[28] (Dumbaugh et al. 2017).

Local survey teams identified postpartum women aged 15-49 in the selected villages who gave birth at least 18 months prior to the survey. To evaluate the main outcomes of the aforementioned cash transfer intervention we calculated a minimum sample of 774 women. Informed written consent was obtained from eligible women. Questionnaires were administered in French or Swahili using electronic tablets. Socio-demographics, inter-household decision making, health service and contraceptive use and self-efficacy in contraceptive negotiation were investigated.

Institutional review boards in Switzerland and the DRC approved research plans.

11.2.3 Theoretical framework: the *transtheoretical model* of behavior change

Grimley argues that the structure of most health behavior change programs assume that all individuals are one, discreet step away from adapting their behavior; in reality, a small portion of the population is actually ready to change (Grimley et al. 1993). The *transtheoretical model of change* (TMC) locates individuals along a continuum of behavior change considering intersections of socio-demographic, -cultural and wider social-ecological characteristics and contexts (Grimley, Prochaska, and Prochaska 1997). Behavior change is conceived as a five stage, progressive process achieved over time: *pre-contemplation,* no intention to change behavior; *contemplation,* intention to change in near future; *preparation,* concrete moves towards change; *action,* making the change; and *maintenance*, consistently engaging the target behavior (Table 11.1) (Prochaska et al. 1994, Grimley, Prochaska, and Prochaska 1997).[29]

Two important constructs facilitate individuals' movement along the TMC : *decisional balance* and *self-efficacy*. *Decisional balance* is an individual's evaluation of the positive and negative aspects of behavior change in their given context. *Self-efficacy* is confidence in one's ability to

[28] Because of high levels of loss to follow up we chose to analyze first round data only.

[29] Prochaska also refers to a 6th stage, *termination*: permanent behavior change without relapse (1997). He mentions, however, that "in other areas…the realistic goal may be a lifetime of maintenance" (1997:39). We believe contraceptive use is such that lifetime *maintenance* is more realistic than absolute *termination*. Contraceptive use requires continued negotiation and action with the exception of perhaps vasectomy and/or tubal ligation. Given the extremely low uptake of permanent contraception in our context we did not find *termination* a useful addition to our framework.

effectively engage in the desired behavior (Grimley, Prochaska, and Prochaska 1997). These inter-related concepts affect individuals' engagement with a multitude of health behaviors (Ha, Jayasuriya, and Owen 2005, Merten et al. 2010, Lee et al. , Whitaker et al.). In our study decisional balance could be a woman weighing the economic and/or socio-cultural risks and benefits of becoming pregnant at a given time during her reproductive years. She may also evaluate her ability, or self-efficacy, to negotiate consistent contraceptive use with her partner(s).

11.2.4 Data analysis

We used four outcomes to define each stage of the TMC, representing *contemplation* and *preparation* with a single variable fitting available data (**Table 11.1**). Our interest was contraceptive uptake irrespective of type of method used therefore our outcomes combined use of *any* contraceptive method, modern or traditional.

Descriptive statistics are percentages of the sample population (**Table 11.2**). Participants rated their household's wealth relative to their community using a 5 point scale ("Much wealthier"/"wealthier"/"same"/ "poorer"/"much poorer"); for analysis we reduced this to a three point scale ("wealthier"/"average"/ "poorer"). We did not collect number of living children in this round of the survey, using number of lifetime pregnancies (continuous) as a proxy as it shows a linear relationship with number of living children from the second survey round. Maternal health service use is categorical, considering antenatal care visits, facility birth and post-natal care. We assigned each service a presumed number of 'contacts' with health personnel based on qualitative data collected in the same area (Dumbaugh et al. 2017). We coded each antenatal visit as one contact, facility birth three contacts, etc. Total contacts ranged from 0-9, divided into three levels of service use ("low", "medium" and "high"). Experience of maternal complications is binary, reflecting any self-reported complication during the last pregnancy and/or childbirth. Decisional balance is based the participant's report of her and her partner's desire to delay or stop childbirth. To measure self-efficacy in negotiating intercourse and contraceptive use women rated their agreement with 3 statements on a 5 point scale of increasing agreement. We created a scale for self-efficacy ("low", "medium", "high") using Cronbach's alpha (R=.53).

We employed multivariate logistic regression to complete our analysis for each outcome using Stata v 13 (Stata Corp LP, College Station, TX). Given our theoretical framework we included decisional balance and self-efficacy in every model; other important co-variates were determined based on our knowledge of the literature and context using backwards elimination ($p < 0.5$). Adjusted odds ratios (AOR) are presented for each outcome.

11.3 Results

780 women's records were eligible for analysis. A notably high percentage of women in this region have never completed primary school (47.1%) and 40.4% identified as poorer than their neighbors.

20.2% of all women (N=773) used any method of contraception in their lifetimes, 15.7% of which were modern. 12.0% of women reported using contraception at the time of the survey, 9.0% being modern (**Table 11.2**).

44.2% of all women (N=767) never used any method of contraception and had 'no intention to use family planning in the future' (*pre-contemplation*). These women tended to be of average wealth and have a higher number of lifetime pregnancies. Educated women, high use of maternal health services, high self-efficacy and at least one partner wanting to plan births were less likely to fall into this stage (**Table 11.3**).

Of women who never used any method of contraception (N=585), 46.5% intended to use contraception 'in the future' (*preparation/contemplation*). Women using a high level of health services and at least one partner wanting to plan births had higher odds of intention to use while women of average wealth and women not in a relationship were less likely to intend to use (**Table 11.4**).

Educated women, women who experienced maternal complications, were self-efficacious and shared a desire to plan births with their partner had higher odds of contraceptive use (**Table 11.5**).

Of the women who used contraception at the time of the survey (N=157), 47.8% (n=75, 9.6% of women overall) used contraception at their last sexual intercourse (*maintenance*). Increased age and self-efficacy were significant predictors. Women with more lifetime pregnancies were less likely to maintain use (**Table 11.6**).

11.4 Discussion

Recently delivered women shared distinct intersections of socio-demographic and -cultural positionalities along the multi-stage path to contraception uptake and consistent use.

The increased odds of women of average wealth in *pre-contemplation* could be because average wealth families may have limited but sufficient access to health services and education

so that they are managing their families, even if not flourishing, without planning births. Whereas poorer families must plan births out of dire need and wealthier families may have easier access to contraceptive services, average wealth families may not perceive benefits of smaller families as their children, it is hoped, could eventually bring financial gain to the household especially if educated (Dumbaugh et al. forthcoming 2017).

We suspect that a number of higher parity women are categorically against the use of contraception, explaining why number of pregnancies predicts *pre-contemplation* and higher parity women are less likely to *maintain* contraceptive use. These women may subscribe to religious doctrine prohibiting contraceptive use, they may maintain adequately 'restful' birth intervals through exclusive breastfeeding and/or post-partum abstinence alone and not perceive a need for contraception (Bledsoe and Banja 2002) or couples may simply want many children in this pro-natalist context. In this last instance, however, gendered power dynamics may privilege men's fertility preferences over women's and, therefore, the link between fertility outcomes and fertility preferences may not necessarily be inferential (Dumbaugh et al. forthcoming 2017, Johnson-Hanks 2007). Factors protective of *pre-contemplation* are consistent with predictors of other outcomes described below.

The impact of maternal health services on desire to use contraception indicates that increased exposure to services may adequately introduce the benefits of contraception to women but not facilitate conversion of motivation into concrete *action*. Any desire to plan births within a couple also predicted *preparation/contemplation*. High levels of motivation but subsequent low use of contraception could demonstrate that there are barriers keeping those with a desire to plan from actually planning.

The high percentages of women not in a relationship who are under 25 (58.9%) and are primiparous (38.4%) (**Table 11.2**) could suggest that many of these pregnancies were unplanned and occurred outside of committed partnerships. In addition, contraceptive services in this context are usually directed at couples; contraceptive use by unmarried women is taboo and not always easy to achieve given health system and provider politics (Dumbaugh et al. forthcoming 2017). This could explain not being in a relationship as protective of *contemplation/preparation*: these women may be less likely to establish future plans for contraceptive use if they are not having consistent intercourse and are not "targets" of contraceptive services. Average wealth as protective of this stage validates findings for *pre-contemplation*.

The profile of women in *action* shifts distinctly. Education as a positive predictor is consistent with literature showing associations between formal education and contraceptive use (Ainsworth, Beegle, and Nyamete 1996). Experiencing maternal complications almost doubled the odds of use, reflective of other SSA contexts where contraceptives are especially sought out by women after taxing maternal events to 'rest' and 'gain strength' (Bledsoe and Banja 2002, Kodzi, Johnson, and Casterline 2012). Increasing self-efficacy levels almost double the odds of contraceptive use. As documented elsewhere, gender transformative strategies to increase women's self-efficacy could, therefore, be key in future interventions (Barker et al. 2007). The strong positive effect of couple agreement to plan births on use suggests that joint motivation of a couple can overcome barriers to uptake, supporting evidence encouraging male involvement in contraceptive interventions (Barker et al. 2007, Vouking, Evina, and Tadenfok 2014).

It is not surprising that age and self-efficacy are the only determinants positively associated with *maintenance*. Once a woman is actually using contraceptives it follows that her ability to negotiate in isolated instances would most determine consistent use. We suspect that with age most women gain more self-efficacy in couple power dynamics. Women may also be especially careful to avoid the physical demands of pregnancy in older age and literature references 'grandmother abstinence' or the SSA socio-cultural taboo against pregnancy in old age, especially once one has grandchildren (Bledsoe and Banja 2002).

Though it was included in the statistical model, couples' agreement to plan births did not predict *maintenance* further suggesting that consistent contraceptive use may depend less on general attitudes and more on a woman's ability to negotiate use at sexual intercourse. This could indicate that the burden of consistent use falls disproportionately to women. An important consideration, often lost in reproductive health research, is that behaviors linked to sexuality will not always follow 'rational' decision making processes (van der Sijpt 2014a). Depending on method choice, couples committed to using contraception consistently may simply fail to employ behaviors conducive to long term reproductive goals in moments of sexual desire. Other barriers, such as health systems stock outs, could also prevent intentioned couples from consistent use. Higher number of pregnancies as protective supports our conjecture that some women are categorically against contraceptive use and/or women/couples simply desire high parity.

It is possible that insignificant/marginally significant results and large confidence intervals are due to the small number of contraceptive users in this context. For example, for *contemplation/preparation* age and education were marginally significant as were education,

religion and service use for *action* (not reported). Religion, often associated with contraceptive decisions, had less of an influence across outcomes than expected. In addition, potentially significant predictors such as length of post-partum abstinence or fetal outcomes were not collected in the survey round we analyzed. All of these factors could merit additional exploration in future. Finally, our study included only recently delivered women; outcomes could be different for nulliparous women.

Our analysis of individual attitudes and actions is not meant to divorce women from wider, complex webs of enabling/disabling factors surrounding contraceptive decisions. Results should be situated within social-ecological models of determinants and systems transformation (Glass and McAtee 2006, Lounsbury and Mitchell 2009, Mumtaz and Salway 2009). Interventions to address lasting change must necessarily consider the complex systems within which individuals are embedded such as influential kinship and community actors, health systems and national and international policies (Stephenson et al. 2007a, Aubel 2012, Finlay and Fox 2013, White et al. 2013).

Our findings demonstrate that attitudes and actions of recently delivered women towards contraception uptake in a high fertility setting can be understood through a step-wise, processual framework of behavior change. While our results may only apply to the particular context and population within which research took place, we demonstrate that the TMC can be used to unveil the unique and complex intersections of socio-demographic, –cultural and couple dynamics driving decisions around contraception in different settings. Looking beyond classic socio-demographic "markers" to "causal processes that increase [uptake]…in certain individuals and/or groups" (Prochaska et al. 1994) could greatly inform successful comprehensive, rights-based contraceptive programs. Rather than speaking only to those on the verge of taking *action*, interventions could accompany individuals through the process of change over time using targeted, context-specific messages and activities (Prochaska et al. 1994).

Table 11.1 Contraceptive use outcomes as they relate to the stages of the transtheoretical model of behavior change

Stage of TMC	Variable
1. Pre-*contemplation*	Never used any method of family planning and no intention to use family planning in future
2. *Contemplation* 3. *Preparation*	Never used family planning but intention to use a method of family planning in the future
4. *Action*	Using any method of family planning, modern or traditional, at the time of the survey
5. *Maintenance*	Used family planning at last sexual encounter

Adapted from Prochaska, Redding et al 1994

Table 11.2 Characteristics of sample population

Observations			N=773	
Ever used *any* form of contraception in lifetime	20.2%		156	
Ever used a *modern* form of contraception in lifetime	15.7%		121	
Observations			N=777	
Currently using *any* form of contraception	12.0%		93	
Currently using a *modern* form of contraception	9.0%		70	
Age				
15-19	10.50%		82	
20-24	30.30%		236	
25-29	26.30%		205	
30-34	14.40%		112	
35-39	11.70%		91	
40+	6.90%		54	
			N=780	
Education				
Completed at least primary school	52.90%		413	
			N=780	
Self rated wealth				
Poorer	40.40%		314	
Same	56.40%		439	
Wealthier	3.20%		25	
			N=778	
Marital Status				
Married	56.00%		437	
Living together, not married	30.60%		239	
In a relationship, not living together	4.00%		31	
Other (Divorced/Separated/Widow/Single)	9.40%		73	
			N=780	
Age & lifetime pregnancies by marital status	**Below 25 years**	**N**	**Only 1 lifetime pregnancy**	**N**
Observations		780		779
Married	31.12%	136	3.20%	14
Living together, not married	49.79%	119	7.98%	19
In a relationship, not living together	64.52%	20	25.81%	8
Other (Divorced/Separated/Widow/Single)	58.90%	43	38.36%	28
Polygamous marriage	21.60%		152	
			N=705	
4+ antenatal care visits	42.40%		331	
			N=780	
Maternity waiting home stay	29.70%		231	

		N=779
Facility birth	87.90%	686
		N=780
Post-natal care within 7 days of birth	20.40%	158
		N=774
Level of maternal health service use[1]		
Low	43.60%	340
Medium	31.30%	244
High	25.10%	196
		N=780
Experienced maternal complications[2]	33.12%	257
		N=776
Self-efficacy to negotiate sexual intercourse and contraceptive use		
Low	33.60%	262
Medium	37.60%	293
High	28.80%	225
		N=780
Decisional balance		
Neither partner desires to stop/ space births	44.10%	284
At least one partner desires to stop/space births	10.71%	69
Both partners desire to stop/space births	45.19%	291
		N=644

[1]'Low' service use = 0-6 contacts with health providers during last pregnancy/birth; 'medium' service use = 7 contacts; 'high' service use = 8-9 contacts

[2]Self-reported complications for most recent pregnancy/birth.

Table 11.3 Pre-contemplation - non-users with no intention to use any method of family planning in future

	AOR	CI 95%		P-value
N	617			
Completed at least some primary school	0.59	0.39	0.88	0.01
Self-rated wealth				
Poorer	1.00			
Average	1.64	1.09	2.47	0.02
Richer	0.35	0.07	1.86	0.22
Number of lifetime pregnancies	1.14	1.06	1.23	<0.01
Level of maternal health service use[1]				
Low	1.00			
Medium	1.03	0.65	1.64	0.90
High	0.45	0.27	0.77	<0.01
Self-efficacy				
Low	1.00			
Medium	0.66	0.42	1.06	0.08
High	0.60	0.36	0.99	0.05
Decisional balance, desire to plan births				
No couple desire to plan	1.00			
At least one partner desires to plan	0.17	0.09	0.33	<0.01
Both in couple desire to plan	0.08	0.05	0.13	<0.01

[1]'Low' service use = 0-6 contacts with health providers during last pregnancy/birth; 'medium' service use = 7 contacts; 'high' service use = 8-9 contacts

Table 11.4 Contemplation / Preparation - non-users with intention to use some method of family planning in future

	AOR	CI 95%		P-value
N	466			
Self-rated wealth				
Poorer	1.00			
Average	0.58	0.36	0.92	0.02
Richer	1.33	0.21	8.37	0.76
Marital status				
Married	1.00			
Living together, not married	1.43	0.86	2.39	0.17
In a relationship, not married	0.51	0.12	2.10	0.35
Other (single, divorced, separated, widowed)	0.16	0.03	0.84	0.03
Level of maternal health service use[1]				
Low	1.00			
Medium	0.92	0.54	1.59	0.77
High	2.13	1.15	3.94	0.02
Decisional balance, desire to plan births				
No couple desire to plan	1.00			
At least one partner desires to plan	8.28	3.97	17.30	<0.01
Both in couple desire to plan	11.42	6.63	19.68	<0.01

[1]'Low' service use = 0-6 contacts with health providers during last pregnancy/birth; 'medium' service use = 7 contacts; 'high' service use = 8-9 contacts

Table 11.5 Action - current family planning users

	AOR	CI 95%		P-value
N	625			
Completed at least some primary school	1.74	1.02	2.97	0.04
Experienced maternal complications[1]	1.88	1.14	3.12	0.01
Self-efficacy				
Low	1.00			
Medium	2.19	1.09	4.40	0.03
High	4.03	2.02	8.01	<0.01
Decisional balance, desire to plan births				
No couple desire to plan	1.00			
At least one partner desires to plan	1.78	0.63	5.03	0.28
Both in couple desire to plan	5.18	2.67	10.04	<0.01

[1] Maternal complications for most recent pregnancy/birth.

Table 11.6 Maintenance - used family planning at last sexual intercourse

	AOR	CI 95%		P-value
N	138			
Age	1.13	1.04	1.22	<0.01
Number of lifetime pregnancies	0.76	0.62	0.92	0.01
Self-efficacy				
Low	1.00			
Medium	3.08	1.12	8.45	0.03
High	3.70	1.36	10.07	0.01

12. ‘So that’s why I’m scared of these methods’: Locating contraceptive side effects in embodied life circumstances in Burundi and eastern Democratic Republic of Congo[∞]

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[∞]Published in Social Science & Medicine 2019 220 doi: 10.1016/j.socscimed.2018.09.030

ABSTRACT

Contraceptive side effects are often portrayed as either unproblematic trade-offs for pregnancy prevention or misconceptions and fears that negatively affect individuals' contraceptive decisions. Little attention is given, however, to wider, socially-rooted meanings and rationales for these feared and experienced side effects (SE). Through inductive analysis of in-depth interviews conducted with women and men from rural Burundi and South Kivu province, Democratic Republic of Congo (2013-2016) we locate contraceptive SE narratives in individuals' broader and changing life circumstances. We extracted two conceptual categories related to SE from participants' narratives: 1) bodily symptoms attributed to modern contraception; and 2) social meanings of SE in everyday life. We then situate these narratives in context – sources of knowledge on SE, barriers to addressing SE, and individuals/couples' life circumstances – to understand their embodied realities. Using Krieger's ecosocial theory, our findings suggest that in rural contexts of poverty, uncertainty and power inequities the empirical realities of SE are legitimate concerns stemming from actual or anticipated bodily symptoms located in the embodied life circumstances of individuals and couples.

12.1 Introduction

Family planning (FP) is promoted as a solution to a number of challenges in low and middle income countries (LMICs) including population growth, often presented in causal association with poverty, hunger, migration and environmental degradation, poor maternal and child health outcomes and gender inequity (Cleland et al., 2006; Bongaarts, 2016; Obaid, 2009). Because of their efficacy in preventing pregnancy, modern contraceptives (hormonal contraceptives, intrauterine device, vasectomy and tubal ligation, and barrier methods such as condoms) rather than 'traditional' methods (periodic abstinence, withdrawal) are the central instruments of public health FP discourse, programs and services (Rossier and Corker, 2017; Hartmann, 2016; FP2020, 2018). Substantial political and financial support for FP programing since the 1960s, especially in LMICs, led to declines in fertility rates across most regions of the world except in sub-Saharan Africa (SSA) where rates of contraceptive uptake remain low and/or stagnant in most countries (Potts, 2014; Ezeh et al., 2012).

Analyses of barriers to contraceptive use in LMICs are rife with references to side effects (SE), mostly portrayed as either unproblematic trade-offs for pregnancy prevention or misconceptions and fears that negatively affect individuals' contraceptive decisions (United Nations, 2015; Sedgh and Hussain, 2014; Campbell et al., 2006; Diamond-Smith et al., 2012; Darroch, 2013). Health social science researchers demonstrate, however, that contextual complexities, ambiguities and contingencies drive individual/couple reproductive decision making and behaviors (Bledsoe and Banja, 2002; Johnson-Hanks, 2005; Jaffré, 2012; Marston et al., 2018). Gender inequity was found to intersect with financial and social barriers to fertility regulation. For instance women in lower social position anticipate difficulty in negotiating access to family funds for the management of SE if needed, while a pregnancy is assessed as a lesser social burden (Campbell et al., 2006). Considering individual women's needs in delivering FP/SE counseling is therefore essential (Bitzer et al., 2018). Yet despite existing evidence acknowledging the contextual realities of SE, there is an epistemological gap where public health literature and discourse continue to look at service quality, promotion and correcting misinformation as the necessary solutions (Foley, 2007); and international initiatives such as Family Planning 2020 continue to follow target-driven strategies to increase modern contraceptive prevalence rates (mCPR), prioritizing uptake over reproductive justice, bodily autonomy and the contextual nuances of self-determination (Hendrixson, 2018).

In this paper, we explore fears and experiences of SE through in-depth interviews of women and men, contextualized in their own fertility and FP practices and preferences in rural Burundi and South Kivu province, Democratic Republic of Congo (DRC). We specifically consider (1) how SE are perceived or experienced as problematic in these specific contexts; and (2) the

meanings individuals and couples attribute to the occurrence – or anticipated occurrence – of SE and the role of those perspectives in navigating contraceptive use and non-use. By locating SE narratives in individuals' broader life circumstances, our aim is to expand the literature base and subsequent policy discussions that acknowledge contraceptive SE as legitimate concerns and socially-embedded phenomena, especially in poor and fragile settings.

12.2 Research context

Situated in the African Great Lakes region, the research settings share common fragile sociopolitical contexts. Ongoing armed conflicts, widespread poverty and weak state institutions and infrastructure create widespread instability in both Burundi and neighboring South Kivu province, DRC. Population growth, displacement and density as well as agricultural overexploitation have made land an object of tension in both settings, where the vast majority of the rural population lives from agriculture. In addition, deforestation, agricultural epidemics (South Kivu) and climate disturbances (irregular and heavy rainy seasons) directly affected communities' economic activities. It was estimated that 71.7% and 77.1% of the population in Burundi (2013) and DRC (2012) respectively lived under the international poverty line at $1.90 a day (The World Bank, 2018). These demographic, political, economic and ecological realities shared between the two contexts have led to new social practices and configurations such as informal marriages and co-habitation. These result in less stable familial structures and weakened marital and kinship accountability for the welfare of women and children (Sommers and Uvin, 2011; Berckmoes and White, 2014). As customary laws (and formal laws in Burundi) follow patrilineal systems that do not entitle women to land inheritance, women are dependent on their husband for land access. The 'social contract' stipulates a woman can expect financial support from the father of her children and his extended kin provided she births an acceptable number of children and performs substantial agriculture work (Hakizimana, 2002; Manirakiza, 2008; Anonymous, 2018(a)).

12.2.1 Reproductive health indicators and health system characteristics

Despite both national governments' explicit prioritization of reducing fertility rates through increased uptake of modern contraceptives including commitments to international initiatives such as FP2020 (2018), fertility remains high and utilization of modern contraception, though increasing, remains low (**Table 12.1**). Recent studies reported that in both settings discontinuation of contraceptives is high (38.1% of female ever-users in Burundi, 57.0% South Kivu), stemming from frequency and severity of SE/health problems (29.9% of women in Burundi, 31.1% South Kivu), as well as bad quality in SE management and poor FP services in general, pregnancy, religious teachings, rumors and misconceptions, pro-natalist

culture/desire to have more children and a lack of couple agreement on FP use (Programme National de Santé de la Reproduction, 2014; Anonymous, 2017). Both health systems rely heavily on external aid including funding for performance-based financing (PBF) schemes (Bertone et al., 2018). Geographic access to health facilities is relatively good in Burundi but poor in rural DRC; quality of services and supply chains in both countries, however, are weak. Only in the last 5 years were FP products made more widely available in the Burundi and South Kivu health facilities where research took place. In both countries, SRH services are under the umbrella of the health ministries' *Programme national de santé de la reproduction* (PNSR, National Program of Reproductive Health) which is decentralized in South Kivu by province. Both PNSR have developed SRH strategies and policies, but as a result of underfinancing and understaffing, their orientations and activities are largely driven by external funding (bilateral aid and international organizations). In Burundi, FP services and commodities were provided free of charge through the PBF system, except for SE management; in DRC most FP services remained payable. Both countries recently revised their FP policies after committing to the FP2020 program, aiming to reach 50% (Burundi) and 19% (DRC) modern contraceptive prevalence by 2020, mainly through supply-side improvements (FP2020, 2018).

12.3 Methods

Our research was embedded in larger, mixed-methods studies of sexual and reproductive health (SRH) interventions conducted in both settings from 2013-2016 (Anonymous, 2018(b); Anonymous, 2018(a)). Ethical approval for this research was granted by [*hidden for review*], the Burundi National Ethics Committee, and the South Kivu Ministry of Health and the Internal Review Board at the Université Catholique de Bukavu, DRC. This paper presents qualitative results.

Burundi and neighboring DRC differ in a variety of ways: historically, ethnically, population size and density, the above relevant health indicators and health systems characteristics. However, despite important differences, both contexts share similar socio-cultural constructs of gender norms and contemporary rural eco-geographical and socio-political realities of insecurity and uncertainty. Most importantly for this analysis both countries recently introduced widespread contraception in research areas and are politically, financially and, through largely donor-driven priorities, discursively committed to the homogenized international FP agenda.

In conducting independent analyses of each context we noted commonalities around contraceptives perceptions and practices, and strikingly similar language and fears around contraceptive SE from both settings. Thus, despite combining contexts not being common practice in qualitative analysis, we opted for a joint analysis over a comparative approach to

demonstrate that these phenomena are occurring across contexts. Similar approaches may be applicable elsewhere, revealing important implications for future of FP policy and practice.

12.3.1 Data collection & participant selection

Research took place in three health districts of South Kivu (Idjwi, Miti Murhesa and Katana) and two provinces in Burundi (Karusi and Rutana). Co-first authors and research assistants, all female, conducted data collection independently, discussing methodology and emergent themes throughout fieldwork. JS (38-year-old European) collected data in Burundi supported by SN (32-year-old Burundian with fieldwork experience in HIV prevention) and occasionally by local researchers (including 1 male). MD (32-year-old American) collected data in DRC with the support of two research assistants in their 30s: WB (Congolese pediatrician and researcher at the provincial reference hospital) and MM (Congolese nurse). All local research assistants, fluent in French and local languages and trained in qualitative research methods, supported introductions into research areas, translated interviews conducted in languages other than French and discussed findings with co-authors.

We used purposive sampling to recruit participants. The Burundian research team spent 9 months total conducting in-depth interviews, focus group discussions (FGDs), observations and informal discussions at community centers and health facilities. We approached most participants in vaccination services' waiting rooms, inviting them to participate individually and guaranteeing confidentiality. Most participants were interviewed several times over the research period in locations chosen by them, ensuring privacy. We followed-up with most participants via telephone or social media when insecurity did not allow field visits, thus facilitating longer-term relationships. South Kivu research teams conducted in-depth interviews and FGDs over 12 months total, recruiting participants in the community often identified by community health workers or at maternity waiting homes after participant observation. Follow-up interviews were not feasible in South Kivu given challenging field access. All interviews lasted 40-120 minutes, were conducted in local languages when the participant was not fluent in French and followed semi-structured thematic interview guides developed for each context.

Both users and non-users of contraception were interviewed. In both settings most participants were women of varying parity, aged 15-49; smaller numbers of male partners, youth, elders, health staff, religious leaders, community health workers and traditional birth attendants were also interviewed. The overwhelming majorities of both populations are Christian (Catholic and Protestant) (DHS, 2017; DHS, 2014) and all study participants identified as such. We conducted 39 in-depth interviews (with 23 persons) and 4 FGDs in Burundi, and 78 in-depth interviews and 2 FGDs in DRC. All interviewees gave written consent to participate.

Our methodological approach was rooted in the principles of constructivist grounded theory (Charmaz, 2006) and interview guides were developed around “sensitizing concepts” related to fertility, reproduction and contraception (Bowen, 2006). The topic of contraceptive SE emerged intrinsically during conversations without participants necessarily being prompted.

12.3.2 Data extraction, analysis & synthesis

Data analysis began during data collection through frequent conversations within and between research teams; interview guides evolved thematically throughout field work.

For the final joint analysis, narratives about contraceptive SE were coded into two conceptual categories emerging from data: 1) bodily symptoms of contraception and 2) meaning of SE for everyday life as recounted by participants (**Tables 12.2** & **12.3**). We then explored the proximal factors influencing lived experiences of SE, namely the different sources of knowledge on SE and structural barriers to addressing SE-related issues. Last, we reviewed transcripts iteratively identifying how participants located SE – bodily symptoms and social interpretations of those symptoms – in their reproductive experiences, projections and broader, contextualized life circumstances.

From inductive analysis of narratives we built a third level of theoretical categories, situating bodily SE of contraceptives and their social meanings in embodied realities of (dis)order and risk, socioeconomic uncertainty, and agency and power. Drawing from the ecosocial theory of Nancy Krieger, we illustrate how contraceptive SE are embodied experiences for women and men arising from the social and ecological contexts of rural Burundi and South Kivu. Primarily used to study (unequal) disease distribution in populations, ecosocial theory attempts to understand how people embody social and ecological ways of living that are shaped by power relations (gender, class, race), property, and the production and reproduction of both social and biological life (Krieger, 2011).

As with all qualitative research, our findings are particular to our research settings. Both contexts were complicated by extreme political fragility and insecurity, affecting the research methods we were able to employ (for example, no evening or overnight participant observation) and limiting access to remote, possibly more marginalized populations.

12.4 Results

Narratives of SE emerged widely during discussions in both research settings. We first present findings that formed the two conceptual categories: *bodily symptoms* attributed to contraceptives (**Table 12.2**), and *social meaning of SE* in everyday life, namely financial and social consequences associated with SE (**Table 12.3**). We then present proximal factors

(*sources of knowledge* and *structural barriers to addressing SE*) that situate how *navigation of SE* is contingent on individual's and couples' life circumstances and the broader ecosocial context.

12.4.1 Bodily symptoms and social meaning of side effects in everyday life

Both contraceptive users who had and had not experienced bodily symptoms described SE they related to contraception; non-users also recounted SE from the stories of others in their community. Respondents reported two categories of SE: (1) acute but reversible pain, illness and bodily dysfunction; and (2) irreversible or fertility-threatening effects (**Table 12.2**).

Participants reported one group of SE as acute bodily symptoms including abdominal pain, weakness, and the most widely cited SE, irregular bleeding. In these contexts the regularity of menstrual flow is perceived as an essential sign of health and fertility and its perturbation was perceived as problematic:

> People think that if a woman bleeds a lot, she risks running out of ovules that play an important role in reproduction. [...] Blood flow has an important cultural meaning: blood means life. People think that women who bleed a lot are not in good health; her husband can't approach her. *(Woman, DRC, 30 years old, key informant)*

This is further illustrated by a young Burundian woman who uses injections without experiencing SE, but who reports deterrent experiences of others:

> Some women who came to the health facility to get injections had issues with their uterus. The uterus illness made them bleed a lot, bleed continuously, so they stopped using injections. *(Woman, Burundi, 22 years old, 2 children)*

The socio-cultural centrality of regular menstrual flow to women's health echoes findings from other settings (Geissler and Prince, 2007; Nichter, 2008). There is in fact clinical evidence that most hormonal methods cause menstrual disturbances; for example, the locally supplied hormonal injection product (Depo-Provera by Pfizer) causes frequent adverse reactions including "menstrual irregularities (bleeding or spotting) 57% at 12 months, 32% at 24 months; abdominal pain/discomfort 11%; weight gain > 10 lbs. at 24 months 38%; dizziness 6%; headache 17%; nervousness 11%; decreased libido 6%" (Pfizer, 2017). From a medical perspective heavy bleeding can pose serious health risks including anemia especially to under- and malnourished women (Hartmann 2016).

Participants related chronic bodily and fertility- threatening effects to fears of irreversible outcomes such as "destroyed" or "rotted" uterus, cancers, miscarriages, birth defects or future

infertility. As in other settings, such recounts of SE reflected a general uncertainty surrounding the intake/injection/insertion of “unnatural” products in the body and/or by the perturbation of the menstrual cycle (Hardon, 2002; Cheung and Free, 2005; Williamson et al., 2009).

Participants also expressed concerns around potential bodily effects induced by long-term utilization of contraception. This Burundian couple used injections to space their three children, experienced no SE and did not want more children. The wife however sought information about female and male permanent methods as she was concerned about the effects of using injections for a long period until menopause. A community health worker reassured the couple that they should not be concerned. The wife, however, still had fears:

> Being a woman, you can go get these injections, you get injected regularly. But I meet many women in the health facility who have bad consequences with these infections and whose husbands have left because of that. Yes... women talk about these rumors. (*Woman, Burundi, 32 years old, 3 children)*

Most participants expressed that contraceptive SE were unpredictable and could not be anticipated or prevented: their occurrence depended on how one’s body reacted to the use of these “unnatural” products. One had to “try out” contraceptives to find out how the body would react:

> Contraceptives can make you lose weight or gain weight and you won’t [be able to] conceive quickly anymore...your body changes...I don’t know if contraception is good or bad. Only each person knows if contraception is good or bad [for them]. (*Woman, 20 years old, first pregnancy, DRC*)

One Congolese woman sought FP services at a facility across the border in Rwanda where she reported they ran “tests” (though she could not specify what kind) to match individuals to the “right” method of contraception, thereby reducing the bodily unpredictability surrounding SE. In other SSA settings women also believed biomedical tests could identify methods of contraception best suited to individual bodies (Rutenberg and Watkins, 1997; Hindin et al., 2014; Schwandt et al., 2016), though these findings were interpreted as references to the WHO recommendations, not requirements, to take women’s blood pressure before prescribing hormonal contraception and establish hemoglobin levels for women using intra-uterine devices in order to prevent SE-induced anemia (WHO, 2016). In our research, most participants did not believe biomedical intervention could mitigate the unpredictable occurrence of SE. Some participants acknowledged that using contraception necessarily involved “method shopping”, i.e. the trial of different methods until identifying a method that works best for the individual. For example when pills gave a Congolese participant (30 years old, 4 children) complications,

the health providers told her to try the injection instead. The woman refused the injection, opting for condoms with her husband's support. After experiencing vaginal irritation with condoms and falling pregnant again, the woman's husband agreed to practice periodic abstinence a method without SE that best met her and her husband's needs and preferences.

Infertility or delayed fertility especially raised serious concerns, as conveyed by this youth SRH peer educator in Burundi:

> P: I see that these methods are not good for all women. I've never taken these pills, but I'm scared of them….
> I: Can you explain why you think these methods are not good for all women?
> P: I have often seen women who have fallen ill afterwards. [...] I think that these modern methods are not adapted to all. There was a person who used the implant, and after taking it out, she became totally infertile. She took it out when her child was 4 years old. Now, she only has this one child. (*Woman, Burundi, 24 years, no children*).

This participant further explained she feared modern contraceptives could "tire" her body and thus jeopardize her ability to bear children. The belief that modern contraception was not well-suited for young, nulliparous women, also present among health providers, was similarly found in other SSA settings (Castle, 2003).

Participants described contextualized meanings of SE associated with or resulting from bodily symptoms (**Table 12.3**). While participants generally divided the meanings of SE in everyday lives as *financial* or *social consequences,* these categories are mutually constitutive and connected.

Financial costs were frequently mentioned, tangible consequences of SE. SE often led to unanticipated visits to health facilities, even hospitalization, putting pressure on already-strained livelihood generation and sometimes resulting in catastrophic household expenditures.

To gain and maintain the respect and social support of their husband, family and in-laws, women needed to remain "irreproachable" by not causing any familial problems. Health issues leading to financial costs, incapacity to work or infertility could have severe social consequences. For example, a woman's future bargaining power could be weakened if she needed to negotiate a family issue such as claiming social or financial support from a spouse or wider kinship networks.

Many women feared that physical effects such as irregular bleeding resulting in weakness and reduced working capacity could have social consequences such as marital conflict, driving their partners to take another wife:

> I: Are you afraid of SE themselves or what can result because of SE or both?
> P2: It's the heavy menstruation that makes a man leave his wife.
> P1: It's the heavy menstruation that makes the man say 'No, I can't tolerate you.' (*FGD women aged 27 and 30, 3 and 8 children, DRC*)

Delayed fertility or permanent infertility (attributable to contraceptives) could also lead to serious social consequences such as marital abandonment:

> There are negative effects of contraception: perhaps you want to space your next birth for three years, and you use contraception. But then you can't have children for six years because of complications [from contraceptives]. And if you don't give birth to another child, your husband will send you away. *(Woman, Burundi, 23 years old, 1 child)*

In some situations we found male partner support of contraceptive use mitigated social consequences of SE: some men were tolerant of SE and engaged in contraceptive decisions, including trying different methods like condoms and periodic abstinence which required their consent and active participation.

12.4.2 Situating side effects and consequences in context

Inductively moving from participant narratives, we embedded the described physical symptoms and social meanings of SE into proximal factors related to contraception in both research settings, and into specific life circumstances of participants at the individual, couple and household levels.

Sources of knowledge on side effects

As found in other contexts, knowledge exchange among different actors in social networks in Burundi and South Kivu was central to gaining information/understanding and forming opinions on contraceptive SE (Diamond-Smith et al., 2012; Kibira et al., 2015). Traditionally, older women including traditional birth attendants were central authorities on reproduction (birth spacing, birth, child rearing). With the introduction of contraceptive technologies, older women's authority is increasingly challenged in this domain. In both contexts a few older individuals narrated rumors related to contraceptives' introduction including attempts to sterilize rural populations. These stories however emerged during isolated, informal conversations, but not in formal interviews with participants, even when prompted.

Contemporary users and potential users of contraception drew on multiple actors' knowledge, experiences and opinions including neighbors, family members, health providers, community health workers and religious leaders. Women and men often looked to different actors for specific types of information and weighted knowledge accordingly.

For example, when deciding if she should use contraception this young, educated but unemployed participant solicited information from both older women in her community and health providers. While the former warned her against SE, she eventually followed the providers' recommendation to space her births using the injection:

> P: After giving birth, I wanted to avoid a pregnancy, so I went to the health facility, and the doctor told me how to use these [hormonal] birth spacing methods. And then I asked old mothers in the community which methods are preferable, and whether there are side effects. These mothers said that you can have side effects, and would need treatment at the hospital that costs a lot of money. [...]They told me you may prefer the injection, but because you are still young you may fall ill, and you don't have the money to be treated. I went back to the facility to ask the doctors which method should I choose?
> *(Woman, Burundi, 24 years old, 1 child)*

While older women and health providers' perspectives contributed significantly to women's knowledge of SE, experiences of current or former contraceptive users in the community were a central source of information for potential users:

> P: Every person who uses these methods becomes very weak during menstruation. And they say that a vigilant person wouldn't take the contraceptive injection. There are others for whom contraception is a salvation if they use it. Their periods may come three times a month but there are women who prefer… to suffer through these heavy periods instead of continuing to give birth. But there are many women who oppose the injection, saying that it's better to continue to give birth instead of using this injection, to continue to give birth until the day when God alone says that I can stop giving birth. Many women are opposed to this injection and we non-users are scared of them. It isn't possible that you want to use what your friend refused to use. (*Woman, DRC, 35 years old, 5 children*)

This was also observed by Rutenberg and Watkins (1997: 290) in Kenya where women sought to supplement information from health workers with the knowledge of women "whose bodies and circumstances are similar to their own".

Men's knowledge and perceptions of SE also contributed to women's knowledge and, especially given unequal gendered power dynamics of most relationships in our research settings, influenced contraceptive practices. This Congolese woman's partner illustrates:

> People talk a lot about family planning…I ask others for information about what one can do if you give birth to children very close together. My husband told me, 'The wife of a friend used the injection before. She refused to use the method that offers five years of protection because it has serious side effects. Instead she used the injection that gives three months of protection. What are we going to do? Can't you forget about using contraception so that you don't risk dying tomorrow because of these methods that give complications to other women?' I see that my husband prefers that we can continue having children [over me using modern contraception] (*Woman aged 24, DRC, 2 children*)

Another strong authority and influence on SE knowledge and, subsequently, FP practices was religion. While the platforms of Protestant churches vary widely, the Catholic Church recently aligned with both governments' fertility reduction strategies in the form of "responsible father- or motherhood" in limiting births based on couples' financial means only using, however, periodic abstinence. During fieldwork, the Catholic Church in both settings responded forcefully in opposition to government initiatives promoting modern contraception. While religious leaders we interviewed did not specifically link contraceptive SE to moral claims against modern contraception, they did cite bodily SE as a general reason not to use contraception.

> I: So here, in church, in preparing young people who are about to marry, we give information about responsible fatherhood. We also talk about the negative effects of these methods, because I think that in health centers they don't talk about them…
> P: What negative effects do you tell them about?
> I: There are people who are attacked by cancer, and there are also effects on brain cells, I think, yes... *(Burundi, Catholic Abbot, aged 45)*

One female Protestant participant directly linked SE to the "sinful nature" of modern contraception wondering if the SE she experienced from the implant were because "God was upset… unhappy… which is why there were complications [SE]" (*aged 33, DRC, 8 children*).

Finally, health staff, including community health workers (CHW), are strong actors in co-constructing knowledge around SE. Health providers acknowledged and normalized contraceptive SE, many accepting "method shopping" as a typical part of contraceptive use; other providers felt powerless to counsel on SE due to their unpredictability. Users reported that in clinical interactions provider attitudes towards experienced SE differed greatly, from

dismissive to supportive. DHS data show that 35.3% and 57.1% of Burundian (2010) and Congolese (2014) contraceptive users respectively received information about SE when offered contraceptive methods. Participants in our study did not necessarily perceive health providers as incompetent regarding SE, but rather that their capacity to anticipate or influence the occurrence of SE was limited due to the unpredictable effects of these modern methods on the body:

> I: Can you explain why health providers give out methods that are bad?
> P: No, it's because of a person's body. It can happen that you do not have side effects, and others have them. I can't say that it's the doctors who give out bad medicine. (*Woman, Burundi, 18 years old, 1 child)*

One contraceptive user indicated that SE information given by her health provider positively affected her continued use, despite experiencing about 5 months of amenorrhea using the injection:

> I: When you saw that you weren't menstruating, did you go to the health center where they gave you the injection to ask why?
> P: I asked the person who injected me, I ran into him on the road… he said it was not a problem. That I could simply go to the health center when they told me [after three months] and I could have another injection without a problem. (*Woman aged 32, DRC, 9 children*)

In Burundi, CHW explained in a FGD that they felt ill-equipped to provide knowledgeable answers to questions about contraceptive SE stories in the community, thereby diminishing their credibility. In fact, providers' FP guidelines in both settings thoroughly describe counseling requirements based on users' needs, including potential SE for each method and treatments. Community FP promotional materials however, such as image boxes and leaflets used by CHW and peer educators, describe the different methods without mentioning or providing information on potential SE.

Structural barriers to addressing SE

In both research settings, a myriad of structural barriers to accessing quality services limits the mitigation and management of contraceptive SE. Cost of accessing services, stock outs and some provider's limited training inhibit "method shopping" as consumers, especially if SE occur, are not offered a consistent choice and range of methods for individualized, comprehensive follow up care. FP information and counseling is mostly offered through group sessions during antenatal care and childhood vaccination, lacking confidentiality and

individualization. Participants described counseling as a mere presentation of available methods focused on modes of administration: “they tell you what there is, and you choose which one you want” (*Woman, Burundi, aged 18, 1 child*).

In some cases, health staff are not sufficiently trained, equipped or willing to provide FP counseling or services, including removal, of all methods. For example in one South Kivu health district, outside of the large reference hospital only one health provider was fully trained in and equipped for implant insertion and removal. In one setting in Burundi, fear of SE was directly linked to the fear of being referred to the hospital for treatment as it was run by Catholics. Stories of rough treatment and judgment, even denial of service for using contraception, circulated throughout the community.

The PBF scheme incentivized FP provision with variations between products: incentives were up to five times higher in both settings for longer-lasting, inserted methods (implant or IUD) compared to methods over which the user has more control (pill or injection); distribution of condoms or information on periodic abstinence was not incentivized nor was any compensation attached to the removal of inserted methods. Service fees for treatment of SE varied from facility to facility in both settings however in Burundi, some providers reported that despite treatment of SE not being included in the PBF scheme, they provided free care to encourage continued contraceptive use while others charged fees.

Recent studies highlight the detrimental effects of PBF in LMIC, including perverse incentives encouraging the delivery of unnecessary services and emphasizing quantity over quality (Paul et al., 2018). During field work we did not actively explore PBF-induced malpractice as this was assessed politically risky; we did collect information that shows lack of FP quality counseling, which may be linked to poor training, lack of time, and/or perverse effect of incentives. The latter interpretation was made by the Burundian Catholic Abbot quoted above arguing that no information about SE was provided so as not to discourage uptake:

> At the health center, they promote contraceptive products because they need to hand them out. And I know it very well, providers write in their registrars the number of people using these methods, and they receive incentives, yes! The effect of these incentives, you understand very well that in a poor country, as a provider you will promote and try to hand out as many products as possible so that you can have a lot of money!

This perception was also found in the Burundian community, as a young woman living in the catchment area of the Abbot reported that “health providers don’t talk about SE, because if they did, no one would get the idea of going to the facility to get contraceptives” (*Burundi, 18 years old, 1 child*).

Some women who experienced SE sought medical care or a change of method. Others however did not report complications either stopping the method or continuing despite SE. Tolerance for SE was contingent on specific circumstances at the moment they were experienced, as developed in the following section.

Navigation of side effects contingent on life circumstances

Our data suggests that in the balance between safety and efficacy of FP methods, tolerance of SE was contingent on circumstances that drove participants' wishes to avoid pregnancy. Yet, this tolerance could be overthrown by changing circumstances or moral values, as illustrated by the narrative of this Burundian school teacher who had his wife use injections to prevent pregnancy while she finished secondary school. The teacher reported his wife was unhappy because of SE – weight gain and loss of libido – and they feared long-term effects on her fertility. These experienced and feared SE were however temporarily tolerated given their life circumstances:

> We use injections because I want my wife to finish her studies. Seeing how in church we are taught that using these methods is a sin, I see that I will abandon them, because these methods have side effects. For example when [a woman] stops using these methods she can have complications or not have other children. So that's why I'm scared of these methods. [...] We used it because we didn't have any other choice. But when she finishes school, we will change to natural methods. And if side effects appear from these injections, we will accept them, because we don't have any other choice. *(Man, Burundi, 28 years old, 1 child)*

Interpretations of morality can also sway tolerance for SE, as illustrated by the case of a Congolese mother of eight children who used an implant with her husband's support to limit her births so they could "take care of those children they already had." The couple tolerated irregular bleeding for 1.5 years before they were told at their Protestant church that contraceptive users would be condemned. The couple simultaneously found the SE becoming intolerable and related SE to religious condemnation, so decided to remove the implant.

Tolerance for SE was also contingent on relationships' configuration. For instance, irregular or excessive bleeding may be tolerable for women in stable relationships with supportive partners who shared a common birth spacing/limitation plan, yet may be less tolerable for women in unstable relationships as bleeding may cause further conflict with their partner. Unstable relationships could also, however, make the balance between the consequences of pregnancy and risking contraceptive SE lean in the other direction.

This 32 year old Congolese woman illustrates: her alcoholic husband gave little support for the eleven children in the household so she decided to use injections to avoid another pregnancy. She subsequently experienced heavy bleeding, requiring hospitalization, and stopped receiving injections. After the birth of another child, she started contraceptive pills without her husband's knowledge:

> He was not going to build me a house or feed my child. It was then that I realized I had to start using contraceptives. I went on my own [to the health center]... As [my husband]…does absolutely nothing [for the family] I thought it was a good idea to use contraception [without my husband's knowledge], knowing that he would not agree.

Several women contraceptive users avoided pregnancy because their partners no longer upheld their end of the social contract to provide materially for the family; the consequences of subsequent pregnancy were greater under these circumstances than the risks of contraceptive use (Anonymous, 2018). Perception of and (in)tolerance for SE are therefore reflections of intersecting factors which ultimately affect the desirability – or necessity – of contraceptive use at different times in an individual's or couple's reproductive lives.

12.5 Discussion

In this paper, we located feared and experienced SE of modern contraception as more than merely treatable physical symptoms or dismissible misconceptions and rumors. Using Krieger's ecosocial theory (2011), we contextualize the empirical realities of SE demonstrating why these symptoms on bodies – at once biological organisms and social beings – are for many feared and intolerable in specific ecological and social contexts. To understand patterns of inequalities in health, which ultimately effect health behavior and decision making, Krieger suggests seeking clues in,

> the ways of living afforded by current and changing societal arrangements of power, property, and the production and reproduction of both social and biological life, involving people, other species, and the biophysical world in which we live (2011: 213).

Ecosocial theory unearths causal connections between social and biological processes resulting in *embodiment*. Land overexploitation combined with climate disturbances heavily impact agriculture-reliant households. Malnutrition, increased labor demands to compensate for lower land productivity and resultant poorer health all negatively affect women's fertility as well as the health of their children and families for whom they are often the primary caregivers. Further, in our research SE emerged as bodily events with potential financial and social consequences, which, in these specific contexts were not tolerable for many individuals and couples. Contingent on ecosocial context and life circumstances, the risk of SE occurrence

often outweighed the risk of a pregnancy. In context, bleeding is more than "just" bleeding. By framing SE within participants' "ways of living", the ecosocial lens synthesizes lived experiences of SE. This allows a contextual understanding of SE as embodied events, forming a third level of theoretical categories (**Figure 12.1**): bodily (dis)order and risk; uncertainty; and power and agency.

If achieving birth spacing or limitation through modern contraception correlates with (unpredictable) SE occurrence and related consequences, individuals and couples need to assess risks that are defined by and "cannot be isolated from [their] social, cultural, historic" (Lupton, 1999) and, ecological contexts. When blood flow is intrinsically linked to fertility, health and, subsequently, social belonging, and infertility incites disorder and dire social consequences especially for women, decisions to modify one's bodily reproductive ability are deeply embedded in the complex ecosocial realities marked by and contingent upon multiple uncertainties. Women and men in Burundi and South Kivu operate in a "routinized state of uncertainty" (Johnson-Hanks, 2005) defined by livelihoods insecurity and informal arrangements at the household level and broader realities of ongoing political conflict, economic instability, land infertility and scarcity, and barriers to accessing health care. Steering reproductive navigation, including weighing risks of unwanted pregnancy or risks of SE (in pharmaceutical terms: weighing efficacy against methods' safety), is contingent on a multitude of cumulative, socially-embedded, dynamic and uncertain factors that are unequally distributed amongst the population. In these uncertain contexts, fear of SE may reflect the acceptable risk of pregnancy for some women and men, while tolerance for SE may reflect a trade-off to avoid an unwanted pregnancy for others, all contingent on their embodied circumstances.

Power dynamics significantly frame women's agency and therefore reproductive choices in these settings. A multiplicity of actors is pushing for decreased fertility: the State through policies and media heavily supported by international aid; health providers through incentivized FP services; and the Church through the concept of responsible parenthood. Yet, despite changing norms and values (access to education, acceptability of cohabiting, broadening authorities of knowledge) gendered-power dynamics continue to strongly define marital and community relationships, maintaining considerable pressure on rural women's reproductive and productive capacity.

In such contexts of multilevel and fluid uncertainty and power dynamics, women's decisions *not* to use contraception because of feared, unpredictable bodily changes are an embodied expression of agency: a decision to maintain control over their *embodied* life circumstances. In this way, "fear of SE" communicates legitimate concerns intertwining bodily symptoms with the core of social belonging, livelihoods and broader contextual ecosocial circumstances.

12.5.1 Policy & program implications

Our findings have broader implications in SRH and FP arenas especially in the context of rights-based SRH promotion, support and service delivery that aim to go beyond rhetoric (Hartmann, 2016; Gautier, 2002; Hendrixson, 2018). We highlight below key points for future policy orientation:

- *Consider individual suitability and risks, not only efficacy, of contraception in FP promotion and distribution:* by prioritizing promotion of long-acting modern contraceptives for their efficacy, the health system fails to legitimize alternative methods (barrier, natural) that may be preferred by or safer for women in certain contexts for their absent/lower SE risk. FP services should integrate "cultural factors that impact contraceptive risk assessment" (Geampana, 2016) for informed, supportive and safe use.
- *Understand, legitimize and integrate local representations of health, fertility and pregnancy*: understanding and integrating local representations, such as the central importance of blood flow, and sources of knowledge, like older women, that women and men use to frame experienced and feared SE and contraceptive use, especially from an ecosocial perspective, into FP promotion and counseling could *"*reduce the social distance*"* between potential users/their social networks and providers (Aubel, 2012; Rutenberg and Watkins, 1997) thereby expanding informed contraceptive choice and facilitating individuals' and couples' realization of fertility preferences (Lambert and Wood, 2005).
- *Frame contraceptive use and method choice as a process*: personalized SE counseling and adequate follow-up care should be integrated from the beginning of provider interactions with potential users, including a variety of methods including non-hormonal; and follow-up care in the case of experienced SE should be accessible (i.e. removal of user fees for SE treatment).
- *Male involvement for gender transformation*: given the interplay between "fears of SE" and gendered power dynamics, male involvement in reproduction decision making may improve FP but should be embedded in broader gender transformative strategies. Male involvement interventions should ensure that women are not inadvertently disempowered by male inclusion (Barker et al., 2010) or that male involvement is not interpreted as simply soliciting men's 'approval' for women's contraceptive use thereby reinforcing the feminization of contraception (Kimport, 2018).
- *Rethink supply-side FP strategies:* incentivizing health providers to deliver contraceptives (PBF) and internationally set coverage targets (mCPR) may motivate

providers to only promote prioritized methods and discourage discussions of alternative FP options based on users' contextualized situation and needs. This is particularly problematic in poor contexts where large proportions of providers' income emanate from incentives and user fees (Magrath and Nichter, 2012; Paul et al., 2018).

- *Advocate for improved contraceptive methods:* most current contraceptive options are not both efficacious and SE-free; SE are normalized as 'the price (women) pay' for preventing pregnancy. Global actors should prioritize development of contraception that simultaneously responds to the reproductive rights, needs and health of users, both female and male, including individual's control over the method (Hardon, 2006).

12.6 Conclusion

In this paper, we situated stories circulating about contraceptive SE in women's and men's lived realities, revealing them as embodied expressions of contingency, uncertainty and gendered inequalities prevailing in rural ecosocial contexts of Burundi and eastern DRC.

Decades of investment in contraceptive programs focused primarily on service delivery and modern contraceptive uptake to reduce the unmet need for FP, largely dismissing/de-contextualizing concerns about SE, have yielded disappointing results across most of SSA. As observed in Burundi and South Kivu, FP is an arena of political and ideological debate, where the objectives of governments, international agencies and religion confront social norms and people's strategies and agency in securing livelihoods (including through fertility). In this arena, SE become a strategic object – muted by some and widely discussed by others. If the ultimate aim is to facilitate the realization of SRH and rights, measures of success should be shifted from increased modern contraceptive use "at all costs" – blurring the lines between political strategies of fertility reduction and rights-based approaches – to the ability of individuals to realize their fertility preferences in their lived embodied realities through safe, informed choices. While quality care and methods choice are essential components of SRH programs, the understanding of SRH and rights should expand beyond international FP boardrooms and clinic walls to include consideration of embodied life circumstances across development domains. Understanding reproduction, contraception and their contextual risks and consequences from an ecosocial perspective is a first step in moving global reproductive health and justice movements forward.

Table 12.1 Health indicators for Burundi and South Kivu, DRC

Indicator		Burundi	South Kivu, DRC
Maternal Mortality Ratio [a,b] (by 100,000 live births)		712 / 100,000	693 / 100,000
Under 5 mortality [b,c]		72 / 1000	94 / 1000
Under 5 Chronic malnutrition [d]		55.9%	53.0%
Total fertility rate [d]		5.5	7.7
Modern Contraceptive Prevalence Rate (all women)[b,f]		16.4 (2017)	10.3 (2017)
Modern Methods used [b, f]	Injection	50.9%	11.3%
	Implant	26.3%	6.3%
	Pill	7.5%	8.8%
	Male condom	5.3%	57.5%
	Other modern methods	10.0%	17.1%

[a] WHO 2015; [b] DRC: National rate; [c] UN-Interagency Group for Child Mortality Estimation 2017; [d] Demographic & Health Survey DRC (2014) or Burundi (2016); [f] FP2020

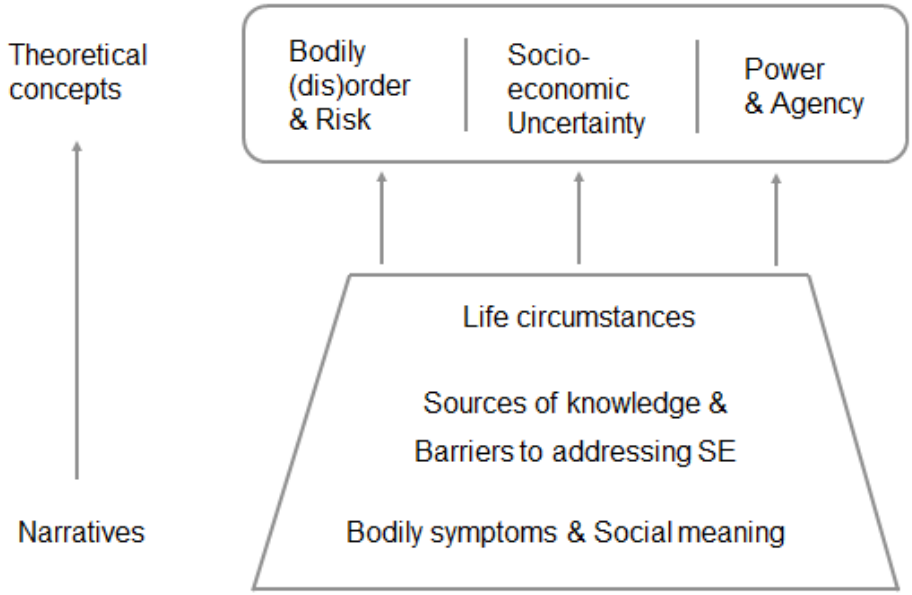
Table 12.2 Bodily symptoms

Acute, reversible pain, illness and bodily dysfunction	Abdominal/uterine pain, weakness/ fatigue, headaches, palpitations, bleeding, swelling, infections/illness such as malaria, weight gain or loss, blood blockage, hair loss, poor vision, loss of libido, vaginal irritation, condom/implant/IUD lost in the body.
Irreversible or fertility-threatening effects	'destroyed' or 'rotted' uterus, infertility, cancer, miscarriages, amenorrhea, birth defects, risky labor, delayed fertility

Table 12.3 Social meaning of side effects

Financial consequences of SE	Fees at health facilities for management of SE, transport fees to reach health facilities (or referred hospitals), loss of working revenue due to incapacity to work or time spent on managing SE
Social consequences of SE	Loss of social support from partner/family, marital conflict (infidelity and polygamy) due to infertility or sexual abstinence during menstruation, loss of social status (infertility), shame

Figure 12.1 Framing contraceptive side effects from narratives to theory



13. Navigating fertility, reproduction & contraception in the fragile context of South Kivu, Democratic Republic of Congo: *'Les enfants sont une richesse'*[≠]

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[≠] Published in Culture, Health & Sexuality 2019 21:3 doi: 10.1080/13691058.2018.1470255

Abstract

Modern contraception has created new possibilities for reimagining reproductive norms and generated new socio-cultural uncertainties in South Kivu province, Democratic Republic of Congo. Using inductive analysis of women's reproductive narratives, this paper explores how women in a high fertility context encounter and integrate recently-introduced family planning and modern contraceptive education and services into their lives. As foundational socio-cultural norms confront the new reproductive possibilities offered by contraception power, dynamics shift and norms are called into question, re-interpreted and re-negotiated. Reproduction is located as a socially constructed process at the intersection of fertility norms, power dynamics, institutional practices, embodied realties and personal desires. In many ways the possibilities created by contraception – meant to increase *certainty* in the lives of users – actually increase *uncertainty.* The complexity of reproductive navigation reveals the shortcomings of reproductive theory and health and development discourse which view women and men as completely autonomous decision makers, removing them from the multiplicity of influencing factors, histories and power dynamics within which they realise their reproductive lives.

13.1 Introduction

In South Kivu province, Democratic Republic of Congo (DRC) the introduction of modern contraception has both created new possibilities for reimagining reproductive norms and generated new socio-cultural uncertainties. Agadjanian (2005:619 described the encounter of 'new, modern' reproductive norms such as smaller families and longer birth intervals with 'old, pro-natalist traditions' as a characteristic of 'transitional societies' in which 'new fertility attitudes and contraceptive practices are yet to take root, therefore different reproductive regimes co-exist'.

The current socio-cultural landscape in South Kivu is illustrative of the co-existence of such reproductive regimes. Modern contraception promises couples – or women independent of their partners or kin – the ability to control the timing and course of their fertility. To what extent women can actually realise these possibilities is, however, less certain. As Greenhalgh asserted in the 1990s 'power is fundamental to reproduction' (1995,17). Therefore intersections of various power dynamics and institutional constructs may curb women's reproductive agency. Uncertainty and ambiguity abound as new methods become available while social norms are re-visited, negotiated and defined (Agadjanian 2005). For women in South Kivu – and most especially for women acting without their partner's knowledge – the social, economic and health consequences of prolonged spacing and/or limiting of births are as yet largely unknown.

Heavy investment in family planning in sub-Saharan Africa has largely focused on 'empowering' individual women and couples to have smaller families, emphasising the economic and health benefits of fewer children (USAID n.d., Foley 2007). Yet these discourses have failed to incite a much-anticipated increase in contraceptive uptake and subsequent fertility decline (WHO 2016). For decades health social scientists have pushed to expand conversations about fertility in sub-Saharan Africa from utilitarian assumptions about the material 'value' of children (Ehrlich and Lui 1997) to more nuanced approaches to understanding fertility patterns (Caldwell 1978, McNicoll 1980, Lesthaeghe and Surkyn 1988, Connelly 2003). Some tenets of utilitarian theories are useful in exploring sub-Saharan African fertility, such as children acting as social security systems (Becker 1960) and agricultural labour demands unique to the continent (Korotayev et al. 2016). However, strictly utilitarian assumptions fall short of explaining the totality and intersection of historical, institutional and micro-level factors, including personal preference, which drive the continent's unique fertility patterns (Greenhalgh 1995, Johnson-Hanks 2002). Education has been proven in South Kivu and elsewhere to be a positive influence on contraceptive uptake and decreased fertility; however more than half of women in South Kivu are still without a completed primary school

education pointing to structural challenges in relying on educational access alone to decrease fertility (Blackstone et al 2017, DHS 2014).

Individual-focused behaviour change approaches to decrease fertility are equally of limited effect as they fail to acknowledge the social character of reproduction (Bledsoe and Banja 2002, Johnson-Hanks 2005, Cornwall 2007, Mumtaz and Salway 2009, Bajos et al. 2013, van der Sijpt 2014). Collectively, these authors recognise the 'social embeddedness of reproduction' (Greenhalgh 1995, 17), exploring the ways in which individual agency can be shaped and/or limited by socio-cultural norms and gendered, generational and structural power dynamics in realising reproductive realities.

Our analysis is rooted in Greenhalgh's (1995, 14) call to 'situate fertility' and 're-conceptualise reproduction' as not simply a biological process but an inherently 'socially constructed one'. In the same vein, we frame the 'continuous motion' of fertility as Van der Sijpt's (2014, 279-280) 'reproductive navigation': a highly contextualised reading of 'the ways in which people give direction to their reproductive trajectories' by understanding 'the interrelationship between reproductive decisions and particular structural configurations'. Through reproductive narratives we explore how women in the high fertility context of South Kivu encounter and integrate contraception into their lives. This socially embedded approach to fertility captures the 'creativity, contingency and uncertainty of [reproductive] decision-making within constantly changing structural constructs' (van der Sijpt : 279).

13.2 Research setting

Eastern DRC has experienced civil conflict for more than 20 years and the situation remains extremely volatile. The health system has suffered greatly because of insecurity, government turmoil and lack of financing; access to quality contraceptive services is often difficult and inconsistent as health facilities can be challenging to reach, stock outs are frequent, costs of contraceptive methods unaffordable and training of health providers varies greatly. The health system operates on a fee-for-service basis, receiving little funding from the central government; international organisations support health system services but programming can be inconsistent as funding cycles and priorities change frequently. The State rarely takes over financial support of programmes, population coverage of well-trained providers is limited and supply chain management challenging (Fox et al. 2013). Despite high national rates of rural antenatal care attendance (ANC) (85.8%) and facility deliveries (74.0%) (DHS 2014), DRC has very high rates of maternal and infant mortality (693 deaths/100,000 live births and 72 deaths/1,000 live births respectively) (WHO 2015, Hug, Sharrow, and You 2017).

Over about the last five years, both international and local non-governmental organizations have prioritised the integration of family planning services into the South Kivu provincial health system. Despite this prioritisation, frequent stock outs and health service fees mean women may travel long distances to find their choice of contraceptives is very limited or they cannot afford the services they want. Only 7.9% of women in South Kivu reported using a modern method of contraception in 2014 and the province's total fertility rate increased from 7.4 children per woman in 2011 to 7.7 in 2014 (DHS 2014, 2011). About 35% of births in South Kivu occur less than 24 months after a woman's previous birth, the minimum World Health Organization recommendation for birth spacing (Marston 2006, DHS 2014).

Short birth intervals, however, were not always prevalent across the continent. In pre-colonial times, Congolese women achieved 2-3 year birth intervals through a combination of breastfeeding, polygamy and extended post-natal abstinence (Hunt 1988) though it is of note that eastern DRC had among the shortest abstinence periods in the region (Schoenmaeckers et al. in Page and Lesthaeghe 1981). Across the continent the brutalities of colonial rule, labour migration and disease resulted in extreme mortality and eventual depopulation by the early 20th century, especially exaggerated in Belgian Congo (Feierman 1985; Mbacke 2017). Efforts to reduce mortality through a 'modern' health system coincided with efforts to incite population growth through cash and gift rewards for births or repercussions for missing antenatal care or having home births (Feierman 1985, Hunt 1999). Discouragement of post-natal abstinence and prolonged breastfeeding aimed to decrease women's birth intervals and increase fertility, (Hunt 1988, Mbacké 2017) the effects of which can be seen today.

13.3 Methodology

Data collection for this study was embedded in a mixed methods evaluation of a family planning education and conditional cash transfer programme to prolong birth intervals, described in detail elsewhere (Dumbaugh et al. 2017) Some respondents included in the analysis were enrolled in the cash transfer programme.

Field work took place in three health districts – Idjwi, Miti Murhesa and Katana – in South Kivu province. Most of the data was collected in Idjwi health district, a densely populated island on Lake Kivu (Thomson, Hadley and McHale 2011). 78 interviews were recorded with consenting participants from 2014-2016 over multiple field visits totalling 12 months. Most participants were pregnant women aged 15-49 years with parity varying from first pregnancy to up to 13 children. We also conducted interviews with older women, traditional birth attendants, husbands, health workers and religious leaders. Informal interviews and participant

observation took place in health facilities, maternity waiting homes[30] and villages. Maternity waiting homes are free group lodgings near higher-level birth facilities where women can await birth in their final weeks of pregnancy so as to avoid traveling far distances to health services during labour. Most interviews were conducted by the first author (MD) together with the fourth author (MM), a local, trained translator, in one of three local languages. Interviews were transcribed in French by MD; key interviews were transcribed by local assistants directly from local languages into French.

Based on the principles of grounded theory (Charmaz 1990) analysis was inductive and happened while data collection was ongoing. This allowed us to adapt interview questions and explore key themes as they emerged, with frequent exchange among the core research group (MD, SME, WB and MM). Interviews explored fertility and reproductive norms and preferences, power dynamics and perceptions of family planning and contraception. We use women's narratives as departure points for discussion (van der Sijpt 2014), choosing narratives for their particular illustration of the intersecting nature of themes which emerged across all field data. Pseudonyms are used to protect participant confidentiality.

13.4 Findings

13.4.1 *'La vie est devenue difficile':* fertility and economic hardship in South Kivu

Decreasing land availability, declining productivity and financial strains are backdrops to almost every conversation in South Kivu. While waves of refugees from Rwanda passed through Idjwi island during the early years of regional wars, Idjwi largely remained a prosperous enclave until environmental, economic, social and political factors (outlined below) converged, especially over the last decade (Thomson, Hadley, and McHale 2011). Regional economic and subsequently social landscapes changed significantly.

On Idjwi a banana blight has all but eliminated banana production which generated major economic and social capital for most households, especially for women. While income generation becomes more difficult, meeting basic necessities and maintaining social relationships requires increasingly more cash. Marriages are today formalised by payment of a bride price by the man to the woman's family and 'responsible' parents are expected to pay school fees for both girls and boys for at least some years. In the years following larger-scale regional wars medical services were free or highly subsidised by various international

[30] Free group lodging located next to birth facilities where women await birth in the final weeks of their pregnancy.

humanitarian organizations ; now user fees for facility births and other health services can generate catastrophic health expenses for households.

Women's opportunities for economic independence are very limited, aggravated by the fact that women must rely on male relatives or their husband for land access despite women's legal right to inherit land. In consequence, fertility is quite nearly a woman's only path to social personhood by embedding her into the material and social resource networks of her partner's family.

The 'social contract' stipulates that by having multiple children with a man, a woman can expect a material livelihood including a house in which to live, land to cultivate, payment of medical fees for childbirth and providing basic needs for children. Men generally 'control' fertility and although an increasing number of women discuss family planning with their husbands, contraceptive use is ultimately the man's decision. In this setting, even economically independent women such as salaried workers (teachers, health workers) or small businesswomen assert that pro-natalist reproductive norms remain central to social acceptance and positioning.

Under severe financial constraints faced by many families, bride payments are no longer always paid to formalise marriages. Informal, sometimes unstable unions are increasingly common, often after a pregnancy. Despite being a predominantly Christian context, over 20% of married women reported their partner was polygamous (DHS, 2014) Participants asserted that some men maintained multiple households, a livelihood strategy to cope with changing economic circumstances, providing little financial support for each household but benefiting from women's agricultural and/or commercial output.

Participants said that the protracted transition to a cash economy, especially in the context of agricultural crises and increasing household land sales, has decreased agricultural production for household consumption and increasingly turned households into independent economic units with negative repercussions for social cohesion and mutual support:

> The wealth that was before, it was not that we had a lot of money but…there was not jealousy, hunger…There is a lack of harmony, of cohesion [today]. People do not get together any more in groups to discuss or give advice. Now, it's everyone for themselves… (Angeline, 50-year-old traditional birth attendant, mother of 13 children)

This respondent echoes others' suggestions that some complex networks of financial support sustained by fertile land and social accountability once enforced by clear lines of kinship have become ambiguous. As land produces less and life costs more, disposable capital to formalise relationships is scarce, large/polygamous families are harder to maintain and social cohesion is strained. As women repeatedly stated, *'la vie est devenue difficile'* (life has become difficult'). This does not, however, necessarily imply a wish for smaller families.

13.4.2 *'Les enfants sont une richesse':* fertility, social personhood & [uncertain] security

Women's experiences of reproductive navigation emphasise the radically different ways in which contraception can shape women's realities. The following narratives illustrate examples of how the vast majority of women in this context end as non-users.

Janine and Rosette were both among the small percentage of women in South Kivu who used modern contraception at some point in their lives. It seemed Rosette would continue for the immediate future to use contraception to limit subsequent births; Janine however would most likely join the high number of female contraceptive ever-users who report starting then stopping contraception across sub-Saharan African settings (Tsui, Brown, and Li 2017, Ho and Wheeler 2018)

Janine

When we met her, Janine was in her 30s and already had two children before her first marriage in the urban centre of Goma, the bustling capital of North Kivu province. Janine worked as a community health worker educating women about contraception. After having 5 children by her husband, bringing her total parity to 7, Janine suggested to her husband that she use contraception. He agreed and accompanied her to the health centre where Janine chose the hormonal implant from a variety of available methods. She experienced some irregular menstruation she attributed to the implant but it 'didn't bother her.' Janine and her first husband subsequently divorced for reasons unrelated to contraceptive use.

At the time of our conversation, Janine had returned to her maternal village to await marriage to a new man and was still using the implant. She said she would prefer to stop having children however 'a child defines the place of a woman in the home… before having 2 or 3 children with a man you are not truly considered his wife.' Once she marries again Janine said she will most likely remove the implant and have more children with her new husband. 'Here in the village, it is difficult to practise family planning.'

Janine's story is exceptional in a number of ways. First, contraceptive use is generally higher and fertility rates lower in urban centres (DHS 2014) and as a community health worker Janine was well positioned to know about and access contraception. She also had the support of her husband in using contraception, rare for most women. Yet despite Janine's relatively empowered position, she will still be subject to the socio-cultural pressures that dictate reproductive norms in her new marriage. Although she wants to stop having children after already 'proving' her fertility with a socially acceptable parity, using a long-acting method of contraception and managing side effects, Janine must 'seal' a social contract with her new partner by having his children as well. If not, she risks abandonment: if she does not give him children, Janine's new husband could be socially-justified in seeking another partner jeopardising both Janine and her children's livelihood. Janine's narrative melds and simultaneously navigates biomedical, gender and socio-cultural discourses and her reproductive reality is not reflective of her actual fertility preference. If a relatively empowered and high parity woman like Janine is unable to navigate away from social fertility pressures, the difficulties faced by other women in less empowered positions in realising reproductive desires are apparent.

'*Les enfants sont une richesse'* – [*children are wealth*] is the phrase repeatedly used by women and men to describe the 'value' of children. As several participants explained, when land was abundant, and population relatively low children enabled a family to procure and work more land, thereby generating not only wealth but local political influence. Despite decreasing land availability and fertility, children are still imbued with both figurative and literal worth; they become the tangible, living proof of an individual's, but especially a woman's, claim to social belonging, access to resources and potential for economic advancement. Now, more than land accumulation, most parents hope that 'Children can help their parents arrive [financially] where they themselves were not able' (Arlette, mother of 7 aged 40, pregnant for 9th time) by obtaining successful, wage jobs ideally in an urban centre. Participants often suggested that in the absence of material wealth children are both their socio-cultural accumulation of and literal investment in pride and hope for future wealth.

Rosette

Rosette, 32 years old, spoke to us while participating in a conditional cash transfer payment at a remote health centre on Idjwi (Dumbaugh et al. 2017) . Rosette had brought two children from a previous relationship to her marriage to a widower who had eight children with his previous wife; Rosette was caring for all of the children. . Shortly after marrying, Rosette realised that her husband drank heavily and contributed almost nothing to the household.

> He was not going to build me a house or feed my child. It was then that I realised I had to start using contraceptives. I went on my own [to the health centre] ... As [my husband] … does absolutely nothing [for the family] I thought it was a good idea to go take contraception [without his knowledge], knowing that he would not agree [to my contraceptive use].

Following the birth of her third child, her first child with her current husband, Rosette tried a hormonal injection. After six months she experienced serious side effects which she linked to contraceptive use: irregular, heavy bleeding and dizziness resulted in two hospitalisations. After her hospitalisations, Rosette stopped receiving injections and became pregnant with her fourth child. About nine months after the birth of that child Rosette decided to take birth control pills. She had no side effects from the pills and said she would continue to use contraception 'without her husband's knowledge.'

Fertility was often framed by women as securing a partner's fidelity. Rosette, however, illustrated how despite being 'secure' in theory, high fertility can be quite *uncertain* security. Rosette saw early on in her marriage that her husband was not going to fulfil his end of the social contract as she expected; her husband showed no signs of increased support after the birth of their first child together. A subsequent pregnancy for Rosette, therefore, would be a burden rather than an investment in her and her children's future. In addition, Rosette's decision to use contraception without her husband's knowledge demonstrates how the risks of an additional pregnancy outweighed the risks of defying gendered power dynamics. As what we call a 'broken contract' contraceptive user, contraception gave Rosette – and other women in similar circumstances – the possibility to autonomously 'cancel' her end of a social contract that was not delivering in her or her children's favour.

13.4.3 [Uncertain] embodiment: experiences of side effects & birth outcomes

Rosette's experience of contraceptive side effects described above highlights how reproduction is a necessarily embodied, uncertain experience for women with bodily and socially constructed consequences (Krieger 2011). Van der Sijpt (2014: 288) describes these contextual physical-as-social phenomena as 'bodily navigation':

> [N]othing is more social than reproduction; but nothing is more physical either…
> The body does not only enable or constrain women's navigation, but it needs to be navigated itself… Since acting bodies are unpredictable women have to constantly manage the broad range of options, outcomes and obstacles their bodies present to them.

At this early stage of contraception availability and use, the ways in which actors with vested interests in women's reproduction, such as husbands and pro-natalist mothers-in-law, will adapt/react to 'new' reproductive events like physical side effects are simply not known. Congolese women were deeply concerned by the possibility of side effects like infertility or heavy bleeding resulting in decreased energy, lower work productivity and/or further medical costs all of which could lead to their husband's infidelity (Schwarz et al 2019). Yet women also recognised that should they die in pregnancy or birth their existing children would be orphaned and possibly mistreated by their husband's future partner.

Rachel, a 26-year-old woman pregnant with her fourth child, recounted the story of her neighbour, the only woman she knows personally to have used contraception. After her husband refused her request to use contraception, Rachel's neighbour secretly received an injectable contraceptive. Rachel linked the neighbour's heavy bleeding, uterine pain and eventual infertility to contraception. Because of these side effects Rachel said the neighbour's husband found out she had an injection and was angry: 'Her husband demanded that they tell him who the doctor was who gave her that injection… Even today, [my neighbour] miscarries each time she is pregnant.' Infertility especially threatens a woman's relationship stability and continued marital support, making this assumed physical side effect, but also social consequence of contraceptives, a large deterrent of contraceptive use.

Many women like Rachel remained non-users not because of personal experiences of side effects but because of experiences reported by those in their social networks. After seeing her friend experience heavy bleeding and weight gain, assuming it was related to a contraceptive injection, Furaha, in her 20s and pregnant with her fifth child, echoed many other women who chose pregnancy – with very clear, positive social consequences – over the ambiguity and uncertainty of contraceptive use: 'I don't like to give birth all the time, all the time but when [I] saw the side effects [of contraception], [I] prefer to give birth rather than have those problems.'

Nadine

Nadine, 35 years old and pregnant for the ninth time, was left with five living children after one miscarriage and two child deaths. Nadine cited her physical suffering and complications during her eighth pregnancy as reasons to use contraception and stop having children. However, she then went on to describe heavy bleeding other women experienced because of contraception. These assumed side effects were also seen as threatening:

> As for [heavy bleeding caused by contraception], they say it is very dangerous. It is really death for someone who has it… [you have your period] two times a month, even

> three times a month… But if we can find a medicine that will cause difficulties, it would be better to stop [giving birth] …to take good care of the [children] one already has.

Arlette

Arlette was 40 years old, pregnant for the 9th time and already a grandmother. Two of her own children had died, one very recently from malaria. Another child requird ongoing, expensive medical care for a chronic injury leaving the family very poor. When discussing fertility preference, Arlette invoked mortality in two very different ways. First, she legitimised contraceptive use by referring to the physical threats of multiple pregnancies:

> Can't you see that I have aged because of giving birth?... It's because [we] lack the means [to pay for contraception to stop having children]. If not this [current pregnancy] would be the last. I don't want to have any more [children]…I do not want to die tomorrow after pregnancy, [which is] why I will use a permanent contraceptive.

Later in the same interview, Arlette described why having a lot of children is so important.

> [The child] can one day have the chance to help me with my needs…Once he has reached a [high] level of studies, he can help his parent…[Don't] you understand that we can't have the exact number [of children] that we give birth to? There are a lot of germs! … some [children] don't live for long. There are some [women] who can give birth to 14 [children] but all of them die and [she] has only 3 [children left].

Anaurite

Anaurite, 33 years old, was awaiting her ninth birth at a maternity waiting home. The birth of Anaurite's seventh child was by Caesarean section and only four months later she found out she was pregnant again. Shortly after the birth of that child, Anaurite attended a family planning information session with her husband. The couple decided that periodic abstinence would be difficult to implement so they wanted to try a hormonal contraceptive.

Anaurite said in DRC health centres 'give you contraception… without knowing if your blood is compatible with [a particular method of] contraception.' Anaurite found out from fellow villagers familiar with the Rwandan health system that a clinic in Rwanda ran blood tests 'to know if you will tolerate [contraception].' Other studies in sub-Saharan Africa have also reported that women felt more confident receiving contraception from a facility that conducts tests to 'match' women with contraceptive methods. However in our and other studies the type and medical

purpose of these tests (if given) were unclear (Rutenberg and Watkins 1997, Hindin, McGough, and Adanu 2014).

Anaurite cited her difficult Caesarean birth, her almost immediate eighth pregnancy and financial struggles in raising many children as reasons why she and her husband decided to use contraception:

> It is good to have children, but children do not permit a person to prosper. A person who does not give birth, you see that he prospers…He can do commerce and agriculture, which is not possible for us. But we also want to take care of [the children] we already have, to educate them, clothe them and have something to feed them.

Anaurite and her husband went to the clinic in Rwanda together because they believed the quality of care would be higher. At first Anaurite experienced no side effects from the five year hormonal implant she chose, however after 1.5 years she had chills, weakness, dizziness, twice monthly menstruation and decreased work productivity. Despite these symptoms which Anaurite attributed to contraception, her husband remained supportive and she kept the implant.

Together, Arlette, Nadine and Anaurite's accounts highlight the physical risks and uncertainties of reproduction using their personal, embodied experiences but the women's narratives unfold as opposing: the profound uncertainty that accompanies the physical experiences of birth and contraception is simultaneously and paradoxically cited as the reason to limit births by using contraception, to avoid using contraception *and* to give birth to a high number of children. Neither high fertility nor controlling fertility emerges as a certain path to women's physical well-being or secure social personhood.

13.4.4 (Re)negotiating social norms: a society in transition

Contraceptive use requires negotiation with a multiplicity of power relationships: gender, generational and religious. Unless women are willing to use contraception without their husband's knowledge, men must be consulted. A woman's mother-in-law can pressure the couple, especially the male partner, to produce heirs and expand kinship and therefore family wealth. Despite the changing nature of kinship networks, family wealth and support remain important priorities and social ideals.

While older women's influence over family dynamics, especially the lives of daughters-in-law remains significant, 'new' contraceptive technologies challenge older women's monopoly over reproductive and birthing knowledge; some older women show signs of support for spacing and limiting births. Religious doctrines are also forced to incorporate – or reject – contraception into their messages. Looking at the renegotiation of socio-cultural norms and roles in light of new contraceptive possibilities illustrates the socio-cultural and institutional frameworks women must navigate in integrating contraception into their lives.

Anaurite's story, cited above, illustrates how embodied realities of contraception intersect with the renegotiation of social norms and power dynamics. About three years after receiving a five-year implant and 1.5 years after first experiencing side effects, a traveling preacher came to Anaurite's Protestant church.

> [The preacher] said that people who…practise [family planning] …God will punish them. He will either take their children, or the Mama will die and leave the children as orphans or…all of the children die …because [with contraception use] we are…rejecting the will of God.

At first, Anaurite said her husband decided the only solution to her side effects was to remove the implant. She then went on to add, 'We removed the implant thinking it is possible that God is upset and that is why there were complications.' In the end, Anaurite ultimately suggested that a combination of the preacher's message and her side effects drove the couple to confess at their church, have the implant removed and stop using any form of contraception, hormonal or non-hormonal.

Throughout our conversation Anaurite's struggle was palpable, almost painful. She clearly stated that neither she nor her husband wanted another child; they would have preferred fewer children so they could 'focus on the children they have.'

> We asked ourselves, then, if we have to follow the instructions of the doctors or the instructions of the prophets of God?

Anaurite had an exceptional situation in that she had the full social and financial support of her husband throughout her decision to use contraception. In addition, while Anaurite described their financial struggles, she and her husband had access to at least enough resources to seek out what they perceived as high quality medical care in Rwanda. Most women are limited to

the contraceptive services offered nearest to their village which, as described earlier, are often inconsistent or inaccessible.

Anaurite's experience also highlights the profound role and influence religion has in the re-negotiation of reproductive norms. Anaurite's religious community is staunchly against the use of any contraception, hormonal or not. However, the official positions of different religious institutions as well as the interpretations of individual leaders within those institutions, varies greatly. Protestant church leaders range from the hard-line rejection preached in Anaurite's church to leaders who themselves use contraception in their marriages to limit births and encourage their congregations to do so as well. Until recently, the Catholic church was opposed to the limitation of births by any means; now, however, the Church promotes *maternité responsible* or 'responsible parenthood': couples should only have the number of children they can support financially. However, according to Catholic leadership, periodic abstinence is the only method that allows 'married couples to truly meet without any barriers'; withdrawal and hormonal contraception are not acceptable. At the same time, there are mothers who are senior, active members of the Church and also dedicated advocates and open users of hormonal contraception. Contradictions abound both in messages and in lived examples in the community.

The course of Anaurite's reproductive reality and the experiences of other women in the community illustrate the negotiation of multiple discourses – each with their own logic and consequences, often in direct opposition to each other – involved in navigating fertility and reproduction.

13.5 Discussion

As individuals in South Kivu confront the new possibilities offered by contraception, power dynamics shift, norms are called into question and values re-interpreted. Ongoing economic changes, such as decreasing land productivity and increasing costs of living, intersect with reproductive dynamics for all social actors. Women confront the embodied experiences of reproduction and contraception in the context of high mortality and while individuals do their best to position themselves and their children well for the future through, for example, education, hopeful determination is almost always tempered by the large role of uncertainty – framed as 'chance' or 'the will of God' – in even the best laid plans. These multiple and fluid realities, influences and discourses weave ribbons of uncertainty throughout women's reproductive navigation. While in retrospect high parity women may say that smaller families would be ideal a younger woman could see a small family a social and thereby financial risk.

Ascribing meaning to contraceptive technologies and the possibilities they offer, thereby lessening the uncertainty surrounding them, will take time and be highly contextual. Women's experiences in South Kivu demonstrate that high fertility is now a less certain and stable security. Contraception offers women the possibility to at least delay subsequent births if their partner is not fulfilling the socio-cultural contract. Increasing costs associated with having children, the risks of high fertility and embodied experiences of maternal mortality can also be mitigated through effective contraceptive use. However, the physical and socio-cultural consequences of using contraception – and the bodily navigation required to manage these consequences – are largely unknown or undefined whereas socio-cultural values surrounding pregnancy and birth are well-established and largely positive. Many women said they preferred the risks of pregnancy over the unknowns of contraceptive use such as side effects and their potential physical and socio-cultural consequences.

At the same time, reproductive-related mortality and morbidity are ever-present in women's lives. Women consistently spoke of pregnancy and birth as embodied experiences with the potential to have – or as already having had – a negative physical, and sometimes subsequent social effect on their well-being or that of their children. Especially for women who had experienced multiple complicated births requiring, for example, repeat Caesarean sections, physical complications can spill quickly into negative social consequences. With costs of complicated hospital births reaching $50-150 USD, costly births were the reason some women's partners encouraged them to use contraception; other women feared being left by their partners because of their 'expensive births.' Faced with the realities of maternal mortality but not knowing how their bodies will respond to contraception or how their partners may react to side effects or prolonged birth intervals, women navigate reproduction within a framework of multiple potential/uncertain/unknown consequences. In this context the physical, economic and social stakes of both reproduction and contraceptive use for women are high.

Just as the community processes the meanings of new contraceptive technologies, so do the practitioners who are the ultimate gatekeepers of these technologies. The practices of these gatekeepers are not outside the influence of foundational social norms. For example, while some contraceptive information should be provided during group antenatal care at health facilities, few women receive unsolicited individual contraceptive counselling. One hospital doctor said that she did not even approach the topic of contraception if a woman does not have at least 6 children: 'Before six you have no basis for discussion.' In addition, participants considering tubal ligation to permanently limit fertility were told that hospitals would not perform the procedure until a woman had at least four children. Finally, it is currently illegal for an individual – woman or man – to receive any contraception without the agreement of her/his

partner. While most providers agree that the existing law is outdated, it legally binds them to certain practices. The provision of contraception to individuals is therefore done on a case by case basis. Patients are uncertain if they can receive services on their own and/or if providers will maintain their confidentiality, especially in village settings where health providers are often integral members of the community. In many ways the possibilities created by contraception – meant to increase *certainty* in the lives of users – actually increases *uncertainty* (Jenkins, Jessen, and Steffen 2005) as different key actors absorb, interpret and adjust their practice to new possibilities.

Although we would argue that classic fertility theories fall short of fully representing lived experiences in sub-Saharan Africa, we do not think they should be categorically dismissed. The analysis we present gives merit to some classic theorists' perspectives. For example, children continue to carry a material, utilitarian value in South Kivu as both labourers and old age security for parents, which in part encourages large families (Becker 1960). Participants also consistently mentioned high mortality as shaping their desire for high fertility (Caldwell and Caldwell 1987). In addition, there is clear evidence of a shift in 'intergenerational wealth flows' (Caldwell 1978) whereby parents are investing more in their children mostly via education in the hopes that at least some will find wage labour outside of agriculture (Kaplan 1996).

What our evidence also supports, however, is that no *one* of these theories fully captures the push, pull and negotiation of multiple, shifting and intersecting factors women especially experience over the course of their reproductive lives. First, while certainly connected to larger economic developments, fertility trends cannot be fully explained by exclusively focusing on generic, de-contextualised economic growth. For example, classic conceptions of fertility largely de-historicise fertility and reproduction (Greenhalgh 1995). In the DRC, 20th century colonial priorities to increase fertility concurred with missionary efforts to 'modernise' local populations and health interventions which decreased mortality but were often forced upon local populations (Hunt 1999). Short birth intervals, high fertility and resistance to/suspicion of contraception in South Kivu cannot therefore be divorced from regional histories of reproductive manipulation and political conflict which instrumentalise the ethnicity in which they are embedded, nor do they exist outside the specificities of contemporary political and economic realities facing South Kivu families.

Where classic fertility theories arguably fall shortest is in their consistent failure to include gender analysis as a central tenet to understanding reproduction. Our work clearly demonstrates how gender power shapes socio-cultural norms and the limits of even more

empowered women's ability to exert agency over their reproductive lives. In addition, we show how gender inequity extends into institutions such as the health system and religion which can perpetuate norms that limit women's autonomy to act within and outside those institutions. Future analyses of fertility should of necessity begin by untangling contextual gender roles as they relate to women's – and men's – negotiation of reproduction including the use of contraception.

13.6 Limitations

It should be stressed that these analyses are particular to specific geographic and socio-cultural locations and cannot necessarily be transferred to other contexts. In addition, given the sensitive nature of the topic, some respondents may have withheld information and/or crafted the answers they perceived as most desirable to researchers. Finally, it is probable that our sampling failed to include the most marginalised women especially those who could not access health services. Future research should also include more men's narratives.

14. Discussion

In South Kivu reproduction can fulfill a deeply personal, intrinsic desire to bring a child into the world and form a family; reproduction is also imbued with profound socio-cultural meaning and can be a significant political act embedded in complex power dynamics with lasting bodily and social consequences. On the global level, reproduction in South Kivu is situated in politically-charged discourses of health, rights, population control and global governance. Through an in-depth, mixed methods study of fertility and reproductive trends, as modern contraception and new fertility norms are injected from the outside and increasingly absorbed into the socio-cultural context of South Kivu, this doctoral thesis illustrates that reproduction is an evolving *social* process profoundly influenced by but also an instigator of socio-cultural, economic, political, health and personal lived realities and change.

Rather than simplifying reproductive realities in South Kivu this work accomplishes the very opposite: rousing and highlighting the complexities underlying, moving, shaping and influencing fertility, family planning discourse and contraceptive use. Considering research questions through both quantitative and qualitative methods, I examine how and where individuals, couples and communities situate fertility within these constellations of actors and institutions at different times throughout the reproductive life course, revealing which factors play into which reproductive actions, when and with whom. The influence and roles of family planning education and relatively newly-introduced and widely available modern contraceptive methods in reproductive navigation (van der Sijpt 2014a) were also considered. Inquiries and analyses were framed within historical and contemporary contexts, comprehensive ecological models of change and wider terrains of global SRH discourse.

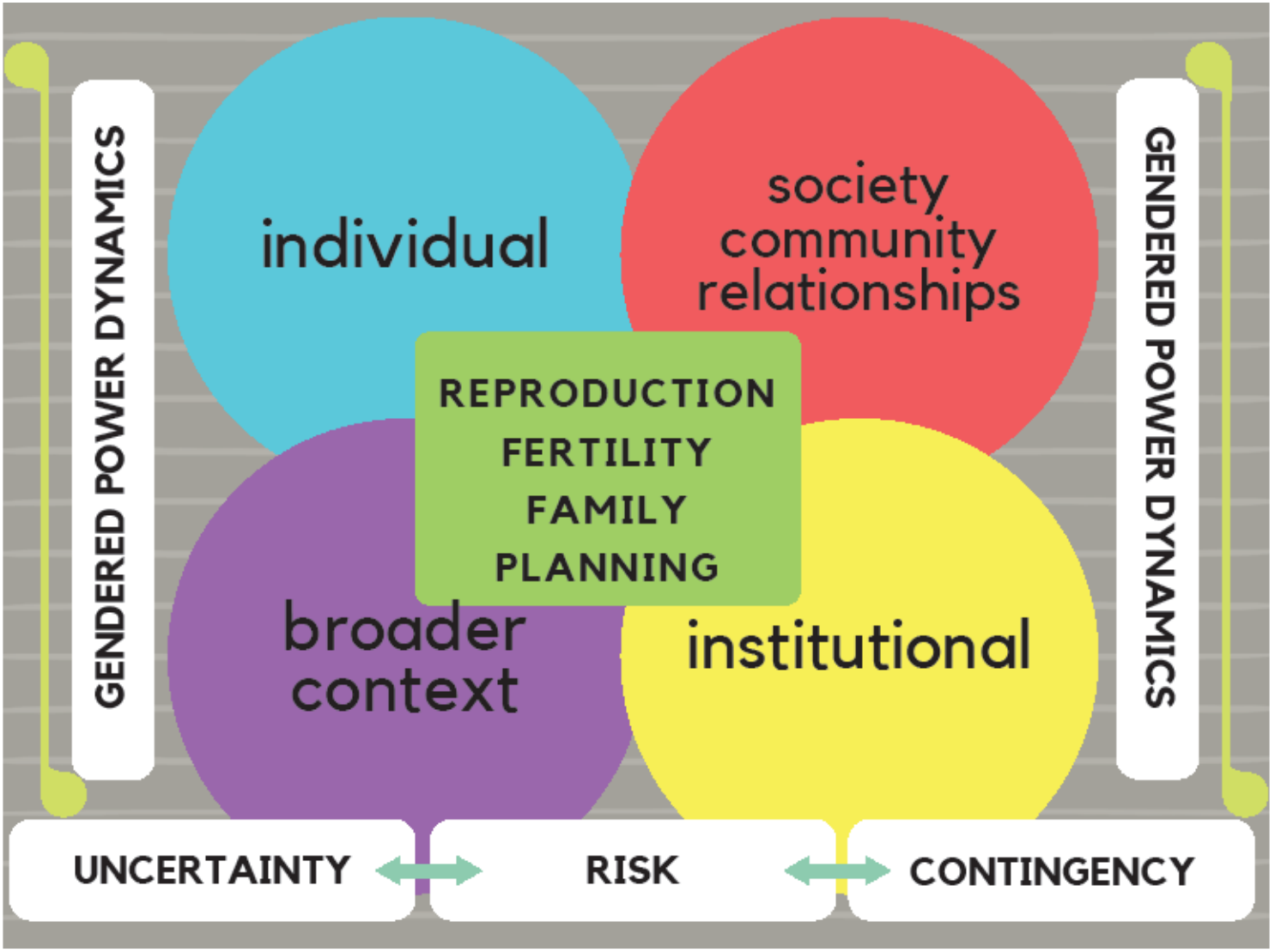
As discussed in the following sections, making the complexity of reproductive navigation explicit is one of my most relevant contributions to the fields of applied health social science and SRH research. In this final chapter I synthesize the findings of this research into a conceptual framework, illustrating a constellation of factors and actors, which modern contraception has altered, and in which fertility and family planning are embedded. Next I view the realities of South Kivu through the lens of demographic transition theory, specifically theories of 'African exceptionalism', as outlined in Chapter 1. Finally, I discuss implications of this research for global SRH policy and practice, paying special attention to the discourses driving current policies and programmatic approaches. These analyses are followed by the strengths and limitations of this research, concluding remarks and future outlook.

14.1 Situating reproduction, fertility & family planning in South Kivu, Democratic Republic of Congo

This research contributes to a growing body of interdisciplinary, health social science literature which embeds reproduction, fertility and contraceptive technologies into socio-cultural processes. From a number of angles and perspectives this dissertation has shown how the social-embeddedness of fertility is manifested in practice and lived reality in South Kivu: the introduction of contraceptive technologies into this context has altered and shifted power dynamics and possibilities while also raising new socio-cultural and broader political questions, concerns and uncertainties.

Figure 14.1 illustrates the conceptual framework revealed by the findings of this dissertation. Reproduction, fertility and family planning are embedded at the intersection of four conceptual categories of factors and related actors: *the individual* (women and men of reproductive age, individual members of kinship networks who stand to benefit from another's fertility, health providers and religious leaders); *society, community and relationships* (conjugal and sexual partners, kinship and social networks); *institutions* (the State, the health system, religious communities and doctrines); and *the broader context* (political climate, environment and land, safety and security). These categories are interconnected and mutually constitutive; **Figure 14.2** details (non-exhaustive) examples in each category, though as findings have shown these constellations and influences are fluid and dynamic. Throughout an individual's reproductive life course each actor, institution or factor will play larger or smaller roles in reproductive preferences, the realization of reproductive outcomes and the ways in which family planning, in particular modern contraception, shape those preferences and actions.

Figure 14.1 Conceptual framework situating reproduction, fertility & family planning in constructs of influencing factors

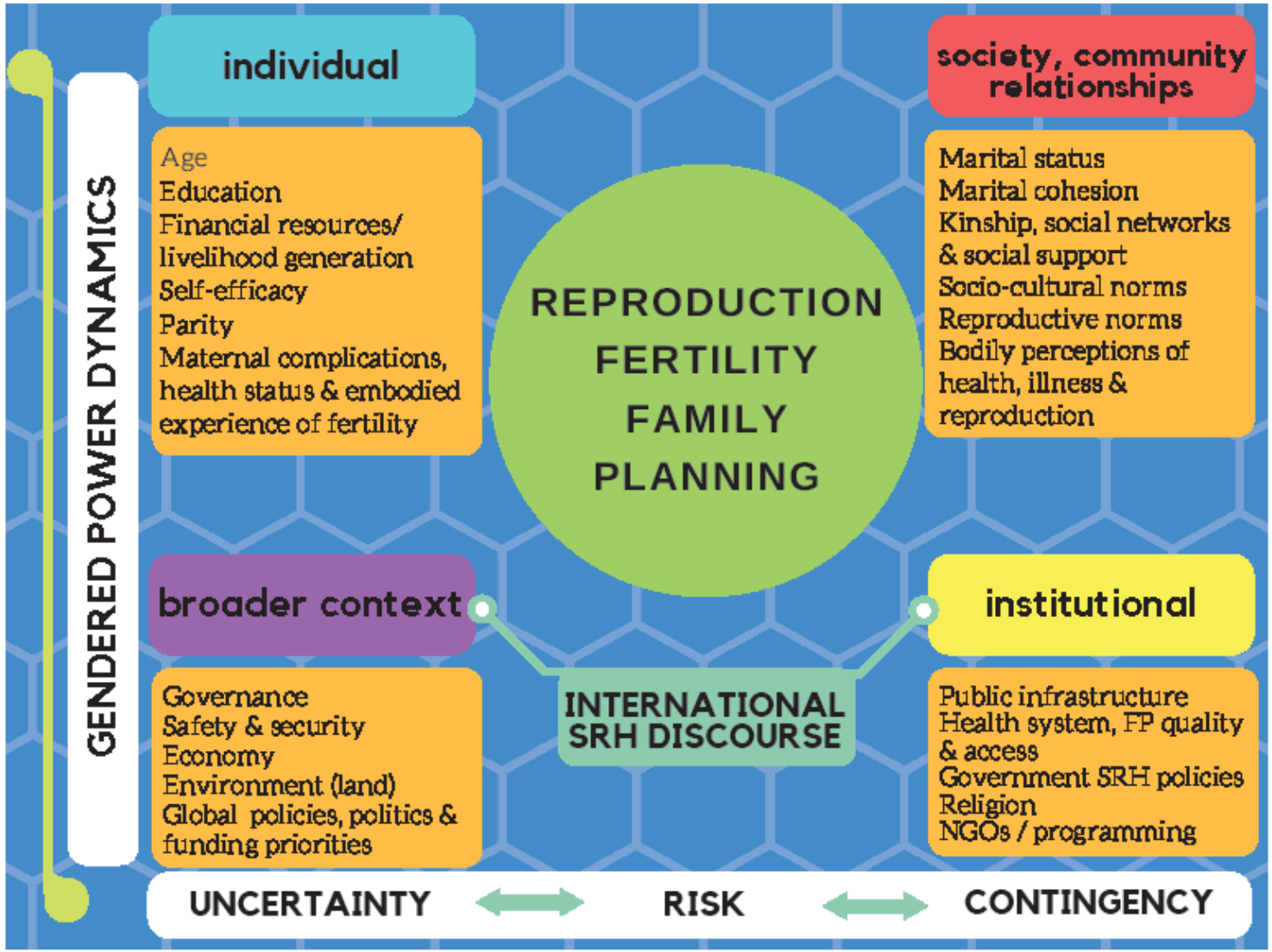


These conceptual categories encompass material realities and social actors who are also themselves embedded in constellations of power dynamics. While gendered power dynamics were the most explicitly identified in this context, other dynamics such as hierarchical positions in kinship networks, communities or various institutions also play a significant role in the realization of reproductive lives. Analysis across research questions revealed that three main factors are underlying fertility preferences and reproductive actions including the use of modern contraceptive methods: *uncertainty*, *risk* and *contingency*. These concepts are at once distinct, influential factors and mutually constitutive, each reinforcing the manifestation, magnitude and reproduction of the other.

This framework compliments Johnson-Hanks' assertion that the inferential link between reproductive intentions, reproductive actions and reproductive outcomes cannot be assumed (2007). In viewing the multiplicity of factors, actors and institutions, power dynamics and underlying concepts which play into reproductive actions and realities it is clear that the reproductive outcomes of a woman, for example, may not in fact mirror that woman's actual reproductive intentions or preferences. In wanting only five children but having eight children she may have acted in ways which, if seen in isolation, suggest she wanted eight children. However, the assumption that her reproductive outcome is equal to her intention ignores the constellations of influence which shaped her choices at the time she made them – if they were choices at all.

In the following sections I explore what research has revealed about each element of the conceptual framework. However, even when taken as separate entities these categories are understood as intersecting pieces of a larger constellation of influence. International SRH discourse as situated in **Figure 14.2** will be discussed in section 14.3.1.

Figure 14.2 Detailed conceptual framework of actors & influences on reproduction, fertility & family planning



14.1.1 The Individual

In Chapter 11 I used Prochaska's *transtheoretical model of change* (Prochaska and DiClemente 1982) to reframe the standard family planning program evaluation outcome – 'uptake of contraception' – as four distinct outcome measures. Rather than limiting women to a restrictive and unrevealing dichotomous label as contraceptive 'user' or 'non-user,' I identified predictors for individuals' position along a continuum of behavior change toward consistent contraceptive use.

Analysis identified several factors at the individual level which influence positions along the spectrum towards uptake of family planning, many of which are validated by findings of other studies in SSA settings outlined in Chapter 2 (Stephenson et al. 2007a, Blackstone, Nwaozuru, and Iwelunmor 2017): age, education, experience of maternal health complications, maternal health service use and self-efficacy to negotiate contraceptive use. At the same time that these factors independently predicted behavior change orientations, many are also highly dependent on a woman's position at the intersection of other conceptual categories. For example, education and health service use are both dependent on institutions' accessibility (education, health care) and quality as well as the relationships and social networks within which a woman lives. These networks can discourage or enable important predicting factors. A woman's self-efficacy and factors which shape her ability to exercise agency are also highly influenced by the other people, institutions and particular gendered power dynamics. Qualitative work (Chapters 12 and 13) contextualized and validated quantitative findings such as the influence of household wealth, maternal complications, maternal health service use and a woman's self-efficacy on desire to use or actual use of contraception. These findings echo findings from other settings such as Bledsoe and Banja's work in the Gambia showing women sought out contraception not to limit births but rather to 'rest' and 'regain strength' after particularly trying birth experiences (2002, 2006).

The embedded nature of the individual supports health promotion strategies, especially those concerning contraceptive uptake, which situate individual-level results within socio-ecological models of behavior determinants and systems transformation (Lounsbury and Mitchell 2009, Glass and McAtee 2006, Mumtaz and Salway 2009). Mumtaz and Salway in particular point to the deficiencies of current frameworks which measure women's 'autonomy' as predictors for reproductive health service access. The authors discuss how current measures of autonomy in health research remove women from the social circles, relationships, socio-cultural norms and frameworks which are more relevant (in the authors' research context) in health service uptake than, for example, measures of women's independent movement from home or control of household assets (2009).

14.1.2 Society, community and relationships

The high socio-cultural value of women's fertility in South Kivu positions fertility at the center of a woman's social personhood, her ability to claim resources and negotiate within sexual and marital relationships as well as extended kinship support. Within gendered power dynamics in the household and gendered divisions of work, fertility ultimately affects a woman's ability to obtain and maintain a livelihood for herself and her children. If, how and when contraceptive use is negotiated, justified and used in shaping fertility also greatly depends on a woman's relationships to others: partners, social networks which provide important information and advice especially regarding modern contraceptives (Rutenberg and Watkins 1997), religious leaders and health providers (see Chapters 12 and 13).

In one example, findings from this dissertation revealed that the (in)cohesion of conjugal relationships often dictated the factors driving reproductive actions in South Kivu in a multiplicity of ways, especially those decisions that went 'against' well-established socio-cultural fertility norms. For example:

- The perceived threat of infertility from contraceptive side effects or the socially-constructed consequences of potential or experienced side effects which could change marital dynamics shaped many women's – and men's – framing and perceptions of modern contraception in the context of their reproductive navigation and broader life circumstances (Chapter 13).

- Male partner support for contraceptive use mitigated the threat of social consequences of contraceptive side effects for some women (Chapter 13).

- Chapter 10 revealed that couple concordance over a desire to plan births greatly increased the odds of contraceptive use and maintenance.

For other women a *lack* of social cohesion – male partners who were not providing financially or materially for the woman or her children – was rather the impetus and justification for contraceptive use and the limiting of births. In both sets of circumstances conjugal relationships facilitated and/or motivated particular reproductive action. These findings highlight the profound role socio-cultural norms, relationships and the quality of those relationships play in forming, facilitating or disconnecting women and men's reproductive intentions, actions and realities (Johnson-Hanks 2007). There is a distinct interplay between socio-cultural norms

including the value of fertility (especially for women) and the social contract that defines marital obligations, relationship cohesion and contraceptive use.

14.1.3 Institutional

Four main institutional actors were relevant to individuals' and couples' reproductive navigation in this context and have been noted as significant influences on SRH in other settings as well (Greenhalgh 1995, Jacobson 2000, Williamson et al. 2014, Hartmann 2016):

- Infrastructure (most significantly quality of and access to the public health system);
- National and provincial government SRH policy and support;
- Religion;
- and NGOs.

As outlined in section 14.1.1, individual factors such as education, self-efficacy and health service use played significant roles in reproductive navigation and contraceptive uptake. However most factors such as access to services (education, health) or exercises of agency (self-efficacy) are predicated and facilitated by the existence, maintenance and consistent delivery of larger institutions usually beyond individual control.

While this research emphasizes the social-embeddedness of reproductive navigation, this and other research highlight that the practical roles high quality health services play in successful, satisfactory contraceptive use cannot be ignored (Ackerson and Zielinski 2017, Blackstone, Nwaozuru, and Iwelunmor 2017). Without accessible, quality infrastructure that includes consistent SRH services even the most efficacious woman will not be able to use modern contraception.

While generally supportive of accessible, quality SRH services, the national and provincial governments in DRC provide few tangible resources to these initiatives (Chapter 3) and serious health system inadequacies in the provision of FP services are documented in urban and rural DRC (Casey et al. 2015, Muanda et al. 2016a, Muanda et al. 2017, Mpunga et al. 2017). Women from South Kivu described short FP education sessions as part of group ANC sessions which were not in-depth and did not allow participants to ask personal questions (Chapter 12). Despite this poor quality of FP counseling, increasing exposure to maternal health services showed an effect on attitudes and uptake of contraception in Chapter 10; this suggests that improving the quality and increasing the personalization of FP education could have a potentially large impact on uptake.

As discussed in Chapters 12 and 13, archaic government laws limit access to contraception for individuals seeking contraception without the knowledge of their partner or outside of a relationship. Also, religious leaders and groups are not only sources of social support for individuals and families but also filter information, knowledge and moral frameworks concerning reproduction and contraception to communities. Finally, decades of violent conflict, political instability and resulting extreme financial and infrastructural deficiencies of the DRC MOH and health system have facilitated the 'NGO-ization' of provincial health systems (Fox et al. 2013). As described in Chapter 3, health services and initiatives vary greatly between health districts and sometimes even facilities. While many NGOs at least attempt to implement evidence-based programming, health strategies and outcomes are often prioritized in offices far removed – physically and/or socio-culturally – from local realities (Hartmann 2016); local populations are therefore subject to frequent, unpredictable changes in health programs and priorities which may not meet their needs, may make planning for health service use difficult and/or pressure them to engage in reproductive actions they normally would not in the absence of incentives (see Chapter 2). These examples demonstrate that institutional work to expand access to FP services and facilitate the realization of reproductive rights will necessarily be multi-sectorial but could have far-reaching, positive effects on SRH outcomes.

14.1.4 Broader context: regional, national & global stages

At first macro-realities such as regional security, governance, regional and global economies or global SRH discourse may not seem to link to SRH on individual or local levels. However theoretical frameworks for analysis such as Greenhalgh's *culture and political economy of reproduction* (1995) and the foundational tenets of the reproductive justice movement – defining reproduction 'within a broad context of gender, racial, social and environmental justice' (Hartmann 2016:xv) – expand the boundaries of the realm of SRH. This expansion makes the connections between the macro-contexts and other conceptual and material realities in figure 14.1 evident. For example, in South Kivu governance, safety and security are particularly pertinent SRH issues not only practically but also in the transformation and reproduction of gendered norms (Oldenburg 2015) (see Chapter 3). Broad contextual realties also directly influence institutional capacities, as discussed in section 14.1.3, to function consistently and facilitate the realization of individual and couples' reproductive preferences. Uncertainty and other related underlying themes of the conceptual framework will be discussed in detail below. The ebb and flow of local and international market prices for agricultural products and mined minerals as well as global environmental phenomena, such as climate change, which impact soil fertility and growing seasons are global economic trends and environmental factors with direct impacts on local household livelihoods. Findings from South Kivu show that local

livelihood generation impacts couples' ability to formalize marriage, which has far-reaching implications for establishing social personhood, social networks and social cohesion (Gari 2014). The absence of these socio-cultural structures can, in turn, have impacts on individuals' and couples' health and well-being (Gari et al. 2013) as well as their agency to realize reproductive preferences.

Finally, the politics of the global health and development industry rely greatly on western funding streams which have set SRH priorities since the 20th century especially in developing countries (Clarke 1998, Connelly 2003, Hartmann 2016). Historically private donors as early as the first part of the 20th century, such as the Rockefeller Foundation and now, the Bill and Melinda Gates Foundation (BMGF) set global SRH priorities, strategies and discourse by funding particular programmatic approaches and contraceptive technologies (Clarke 1998, Hartmann 2016). Though physically far removed from the nebulous forces and actors on the global stage, the programs prioritized by those actors quickly trickle down to small clinics in South Kivu in the form of which family planning interventions, messages and contraceptive products are passed on and available. In many ways the definition and limits of SRHR for women in South Kivu and elsewhere are at the discretion of these macro-actors. Criticism has mounted in recent years against the BMGF regarding conflicts of interest (Kalra 2017) and the prioritization of technological fixes to health challenges over comprehensive, ecological approaches to improving health outcomes (Sharma 2015). The parallels between the actions of private entities in the mid-20th century engaged in the population control movement and private actors and donors involved in contemporary SRH policy making and funding are troubling. Yet, the global health and development field – or industry? – is still largely shaped by the visions of these concentrated powers.

14.1.5 Gendered power dynamics

The negative effects of unequal distribution of gendered power for the health, autonomy and ability of women and also men to realize their reproductive preferences are well documented and discussed across contexts (Stephenson et al. 2007a, Blackstone 2017, Blackstone, Nwaozuru, and Iwelunmor 2017). Existing empirical work justifies a feminist approach to analyses of reproduction, fertility and SRH in South Kivu (see Chapters 5 & 8)(Ginsburg and Rapp 1991, Greenhalgh 1995, Bustamante-Forest and Giarratano 2004, Sternberg and Hubley 2004, Barker et al. 2007, Barker et al. 2010, Springer, Hankivsky, and Bates 2012, Hawkes and Buse 2013). While not the only power dimension influencing reproduction and fertility actions in South Kivu, gendered power dynamics consistently surfaced as the most highly influential power dynamic in shaping and constructing reproductive possibilities and constraints. This was especially true for women but men also felt the limits of their reproductive

options in the context of socio-cultural expectations equating masculinity with high fertility and financial support of large families in particularly difficult economic circumstances. Gendered power dynamics were perhaps felt most poignantly at the individual and society, community and relationship levels through, for example, unequal power distributions in access to livelihood generation including land, household decision making and socio-cultural gendered roles. These inequities subsequently define fertility as a male domain, often greatly limiting women's ability to negotiate and realize their own reproductive preferences.

At the same time it is also evident that gendered power inequities permeate and shape institutions and broader contextual arenas. For example, many religious institutions dictate and justify 'acceptable' gender roles and behaviors including women's submissiveness to men especially in marriage. In the health system many health providers, women's gatekeepers to health services including contraception, are men with the state-sanctioned power to refuse services to women especially single women or women acting without their husband's approval. Also, gendered norms and roles surrounding marriage, family, reproduction and fertility are reflected, reproduced and reinforced in programmatic approaches to SRH such as education materials and SRH and contraceptive messages. For an example from South Kivu see Appendix B. In the broader context, women's bodies are the targets of contraceptive technologies, and the locus of SRH discourse, funding and program priorities. Contraceptive technologies can pose serious health risks to women especially in the context of weak health systems unequipped to provide adequate follow up care (Hartmann 2016).

This dissertation supports Mumtaz and Salway's (2009) call for a more nuanced perspective on agency than that implied by the individualistic, autonomy paradigm driving much of global health and development discourse and subsequent programming and evaluative analysis. Exercising agency in decision making surrounding SRH and fertility in South Kivu, as I have shown, is not the act of an 'isolated, atomic individual' but rather 'a person…embedded in a web of social relationships'; an individual's reproductive agency, and the limits of their agency, must be viewed in,

> …the broader social, political, economic, racial and gender hierarchies and how the resultant inequities operate, at the level of [the] individual…, family, society, nation-states and globally to shape…experiences of reproductive health and illness' (Mumtaz and Salway 2009:1355).

Gendered roles, relations and interactions are also fluid and responsive to the multiplicity of actors and influences converging at the intersection of fertility, reproduction and family

planning in South Kivu. The fluidity of these gender roles is greatly facilitated by the uncertainty, contingency and risk underlying reproductive preferences, behaviors and outcomes. In the next section I will link these themes, returning to Silke Oldenberg's (2015) analysis of gender transformation in a North Kivu context which was introduced in Chapter 3.

14.1.6 Uncertainty, contingency and risk: fluidity of underlying factors & influences

As was evident in participant narratives regarding contraceptive side effects and reproduction and fertility in general, uncertainty permeates most aspects of life in South Kivu, factoring greatly into SRH decision making and outcomes. Contraceptive technologies, billed in biomedical discourse and located within women's empowerment frameworks as bringing agency and control to women's lives, simultaneously open possibilities but also *increase* uncertainty. The South Kivu context echoes Agadjanian's conceptualization of the *society in transition*:

> New fertility attitudes and contraceptive practices are yet to take root, therefore different reproductive regimes co-exist… In a rapidly changing social and reproductive environment [...] contraception remains experimental, and such facts as bleeding, headaches and even weight gain or loss associated with contraceptive use may constitute bigger concerns than an unplanned pregnancy (2005:619;634).

As narratives recounted in Chapters 12 and 13 demonstrate and Figure 14.2 conceptualizes, women especially are caught in the web of a multitude of uncertainties simultaneously pushing them to take completely opposite courses of reproductive action: avoid pregnancy, use contraception/ have more children and fear contraception. High maternal mortality and often poor quality, inaccessible health services make the embodied experience of pregnancy a life-threatening event; but at the same time high child mortality makes low parity a social hazard especially if some children do not survive. Modern contraception offers women control over their fertility, even if their partners do not approve of contraceptive use however contraceptive side effects, including perceived lasting effects such as infertility or the negative marital consequences of irregular bleeding, make pregnancy a more certain course of action for many women. In the midst of these tangible realities, local perceptions of pregnancy and child bearing bestow each child with the potential to succeed, to 'be someone', to 'arrive where his parents could not go'; limiting fertility could cheat a couple, family, village, even the nation of a successful citizen or future leader.

Johnson-Hanks describes 'routinized states of uncertainty' in her research setting of Cameroon and Oldenberg speaks of 'experiences of prolonged decline' and 'routine threat and

uncertainty in everyday lives' in a North Kivu setting (2005:370; 2015:317). In these routinely uncertain states 'future perfect acts' (Johnson-Hanks 2005) are impossible to pursue as the choices women have – especially their reproductive choices – are contingent on a largely unpredictable multiplicity of factors. As figures 14.1 and 14.2 illustrate, many of the factors on which reproductive navigation is contingent are beyond the control of the individual: 'The more things are contingent on other things, the more unpredictable they are' asserts Johnson-Hanks; 'contingency *is* uncertainty' (2005:370; Bledsoe in Johnson-Hanks 2005:375).

In the mutually constitutive back and forth of contingency as uncertainty and uncertainty necessitating contingency, individuals and couples must calculate the risks of different reproductive courses of action. The notion of risk, according to Lupton, is socially constructed and fluid: 'risks cannot be isolated from social, cultural and historic contexts' and are 'outcomes of socio-cultural processes' (Lupton 1999:2). Reproductive decisions in South Kivu, therefore, are exercises in risk-weighing: risks which are inherently 'risky' because of the uncertainty surrounding almost all reproductive action versus risks which shift in meaning and weight as circumstances, contingent on the factors outlined in Figure 14.2, change and evolve over the reproductive life course. A decision that may be risky today could be contingent on the commitment of a partner or a switch in Church leadership or the renewed funding of a NGO's family planning intervention that provides free contraception. If any one of these factors change, or if another factor is added to the equation – such as a second wife or the death of a child – risks also change, contingencies shift and different uncertainties factor into reproductive action.

Oldenberg's analysis from North Kivu, DRC of the uncertain/possibilities created at the encounter of modernity, power and gender identity echoes recurrent themes of this dissertation: encounters with the modern are filtered through different socio-cultural objects and facilitated by institutions informed by particular assumptions and discourse. In South Kivu individuals, couples, communities and institutions encounter modernity in the form of modern contraception and western reproductive norms. The ways in which these norms are presented in South Kivu communities (see Appendix B) transform and reproduce local socio-cultural norms. These encounters simultaneously create possibilities as 'discursive moral uncertainty' fills in the void left by shifts in gender roles, shifts which both incite and are created by uncertainty (2015:326). Contraceptive technologies and the potential social consequences they carry are extremely uncertain. However, especially in the context of challenging economic circumstances in South Kivu that can keep men from fulfilling their end of the 'social contract' toward their wives, these uncertainties are also opportunities for re-defining not only

reproductive norms but also gendered power relations and behaviors as women decide on their own to delay or limit fertility using modern contraception.

In using this framework I do not mean to suggest that every reproductive action is consciously calculated at every reproductive conjuncture; in fact, some decisions are dealt with retrospectively after, for example, a pregnancy is discovered and the subsequent course of action is weighed using the same three factors (Van der Sijpt 2012). As Johnson-Hanks asserts, too much forward planning is impossible in such uncertain, contingent and [shifting] risky contexts (2005). One important consideration, often lost in reproductive health research, is also that behaviors linked to sexuality will not always follow 'rational' decision making processes (van der Sijpt 2014a). Even couples who are the most committed to planning their families may fail to follow through on actions conducive to long term reproductive goals in moments of sexual desire.

The most useful conclusion from these findings is the recognition of the shifting and contingent nature of reproductive decisions and the multitude of factors that could influence an individual's reproductive preferences, decisions and outcomes at a given point in their reproductive lives. This tri-constellation of uncertainty, contingency and risk – at once distinct and mutually-constitutive factors – reinforce, shape and reproduce each other, underlying the intersecting conceptual categories that frame reproduction, fertility and family planning in South Kivu and facilitate reproductive navigation.

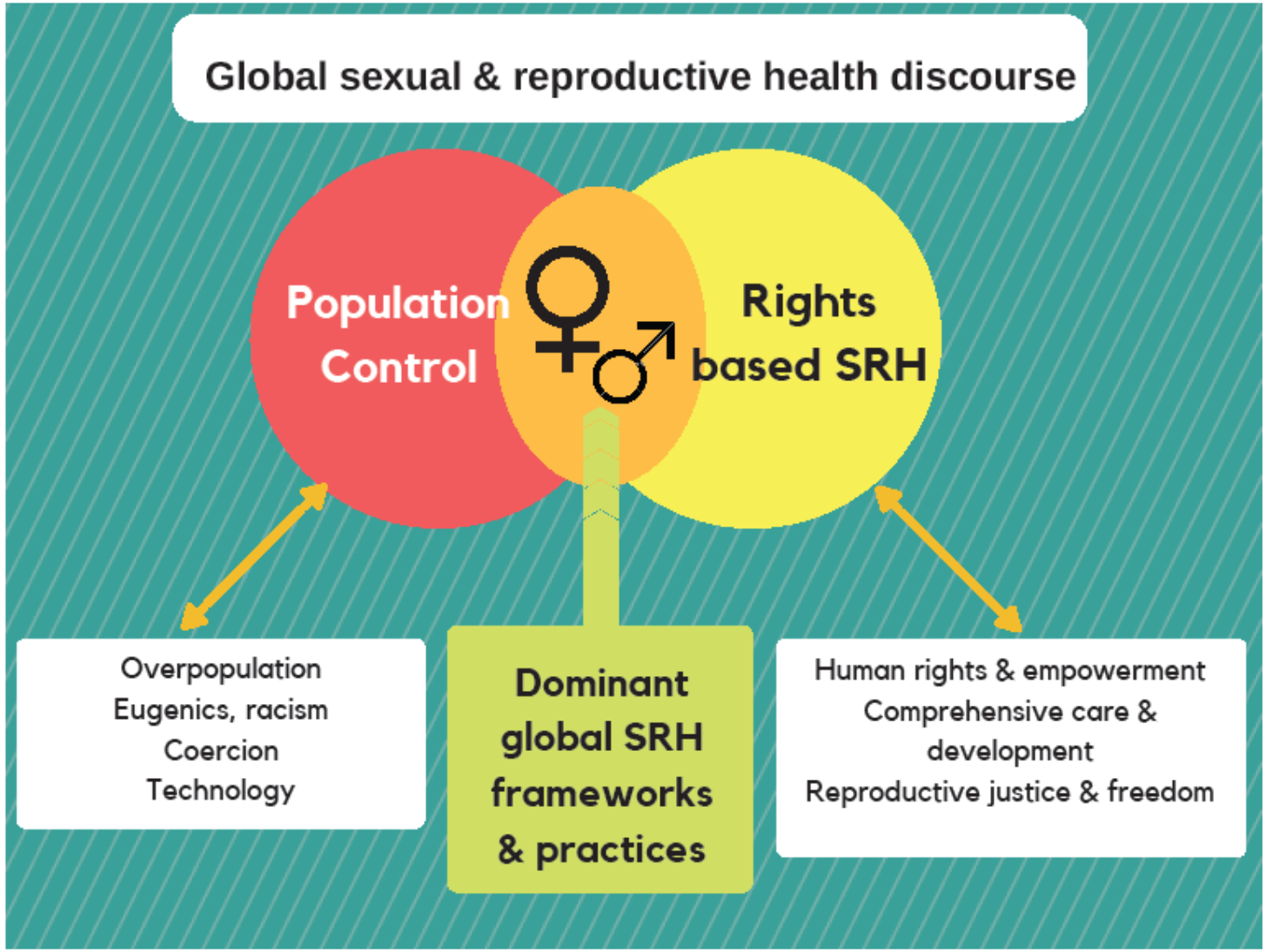
14.1.7 Global discourse as revealing

Considering the trajectory of fertility transition theories, the frameworks driving SRH discourse and the results of this research, I argue that dominant current discourse driving global SRH agendas sits uncomfortably at an intersection of population control doctrine and the rights-based frameworks envisioned in the mid-1990s (Figure 14.3). As shown in Figure 14.2 and discussed earlier in this chapter, the direction, undertones and focus of global SRH discourse are significant because they directly inform actions on the international level (broader context of global health policy and funding priorities) which subsequently shape institutional frameworks and action (SRH approaches adopted by national and regional health systems and NGOs). Dominant SRH discourse, then, has direct impacts on the constellations of factors within which women and men realize their reproductive lives by shaping the tangible SRH options prioritized and made available to different populations around the world.

As outlined in Chapter 2, population control as a justification for contraception advocacy is rooted in racist, classist and often eugenicist histories of controlling *certain* populations' fertility

– namely the poor and [perceived] ‘swelling’ populations of developing countries. These discourses were born out of panics about the ‘quality’ of growing populations around the world from the beginning of the 20th century (Clarke 1998, Connelly 2003). The rights-based language adopted at the ICPD in 1994 was foundational to materializing the already-brewing backlash against population control movements into SRH rights. SRH as a human right is still the rhetoric driving SRH policy and programming today, however many scholars argue that it is and always has been just that – rhetoric (Jacobson 2000, DeJong 2000, Foley 2007, Hartmann 2016).

Figure 14.3 Global sexual & reproductive health discourse: a dangerous intersection



While SRH funders, policy makers and program implementers espouse SRHR, actual funding streams and programmatic approaches are narrowly focused on decreasing fertility by increasing the uptake of modern contraception; post-Cairo and now post-Millennium Development Goals, comprehensive reproductive health services never materialized in most developing countries and violations of reproductive rights, such as targeting poor populations for long-acting contraceptive methods or outright reproductive coercion continue (Jacobson 2000, Hartmann 2016, Vlassoff, Rao, and Lale 2017). Whittaker supports this analysis by showing that contraception to limit births was, and continues to be, well funded and easily made available in SSA – often more readily available than other basic health services – yet infertility services, for example, which are just as much a part of a comprehensive rights-based agenda are rarely if ever available to poor populations of the South (2015). In South Kivu this reality was seen in health posts which were not equipped to handle safe births but were nonetheless stocked with vials of injectable hormonal contraceptives.

One of the more recent global SRH initiatives, FP2020, of which the DRC is a 'commitment maker', was launched in 2012, has generated billions of US dollars in support and is heavily funded by BMGF (AFP 2015, FP2020 2017). FP2020 is an illustrative example of current SRH discourse which sits at the intersection of population control ideologies and SRHR. FP2020 has the express aim of 'enabling 120 million more women and girls to use contraceptives by 2020' (FP2020 2017). While promotional materials filled with rights-based language and program tenets include 'integrated programs to achieve sexual and reproductive health and rights', SRHR is unequivocally equated with contraceptive use in FP2020's overall aim and founding principles:

> Protection of the human rights of women and girls including through policies and mechanisms to ensure informed choice of a broad range of high-quality, safe, effective, acceptable and affordable contraceptive methods; non-discrimination, and assurance that women and girls are fully informed, and not coerced by any means.

Outputs of the initiative are focused on uptake of contraceptives in the poorest countries (FP2020 2017) and comprehensive SRH services are not included in initiative aims. The DRC has committed to dedicating a yearly national budget line of at least $2.5 million USD to contraceptive purchase (AFP 2015). The DRC's two objectives of their 2017 commitment to FP2020 are extremely telling:

1. Increase the prevalence of modern contraception from 5.4% (2010) to 19% by 2020.

2. Increase the number of users of modern methods from 700,000 (2010) to 2.1 million by 2020 (FP 2020 2017).

As FP202 demonstrates, while rights-based language is ever-present on the global stage and messages emphasize the 'freedom' of women to choose 'whether, when and how many children they choose to have', the emphasis is always on fertility limitation; not access to other quality, comprehensive reproductive health services, not non-hormonal contraceptive methods without side effects nor the simultaneous right of a woman to have *as many* children as they wish to have without fear for her well-being. In contexts where other health services are in great need of investment the prioritization of contraceptive technologies targeted at the poorest populations in developing countries sits dangerously close to population control ideologies and practices.

For an illustrative example of how global SRH discourse is at play in South Kivu FP programs, see **Appendix B**.

Rhetoric around 'fears of overpopulation' is also ever-present as actors in the global North problematize population growth in the South especially in SSA. Hartmann argues that the population control movement never went away, was only 'veiled' by co-optation of the rights-based language of Cairo, and is in fact resurging as global issues such as climate change are increasingly blamed on overpopulation [in developing countries] – and not over consumption in developed countries (2016). Overpopulation is framed as a (or *the*) problem facing SSA; behind this framing is also an underlying threat to the well-being, prosperity and privilege of countries in the global North. Family planning (the limitation of births in SSA nations) is offered as a solution to problems such as food shortages in the South but also to mitigate the threat of 'international migration' from the South to the North (Cleland and Sinding 2005); broader development outcomes and systemic global power and policy inequities (such as structural adjustment programs authored by Northern instituions) which may also contribute to SSA challenges such as food shortages are simply not addressed. The example of the Swiss referendum linking environmental degradation, overcrowding (in Switzerland), limits to immigration to Switzerland and increasing family planning spending abroad is telltale of this dynamic (Copley 2012).

14.2 Seeing through the African Exceptionalism lens: how useful is demographic theory in framing South Kivu?

Though I would argue that classic fertility theories fall short of fully representing lived experiences in South Kivu, I do not think they should be categorically dismissed. Quantitative and qualitative analyses presented in this dissertation do give merit to some classic theorists' perspectives and findings from across SSA as well as this dissertation suggest that increased development – or 'modernization' – in the form of education, increased economic opportunities especially for women could lower fertility and increase contraceptive uptake (Stephenson et al. 2007b, Blackstone, Nwaozuru, and Iwelunmor 2017) and other maternal outcomes such as reduced mortality(Buor and Bream 2004).

For example, in South Kivu children continue to carry a material, utilitarian value as both laborers and old age security for parents which in part encourages large families (Becker 1960); participants also consistently mentioned high mortality as shaping their desire for high fertility (Caldwell and Caldwell 1987) which may indicate that increasing some basic development indicators could, at least to a point, contribute to decreased fertility (Korotayev et al. 2016). In addition, there is clear evidence of a shift in 'intergenerational wealth flows' (Caldwell 1978) whereby parents are investing more in their children mostly via education in the hopes that at least some will find wage labor outside of agriculture (Kaplan 1996). As raising children costs more, parents and young, childless people talk of having fewer children to be able to invest more in each one. Where classic fertility theories arguably fall shortest is their consistent failure to include gender analysis as a central tenet to understanding reproduction. As explained throughout this dissertation and earlier in this chapter, gendered power dynamics shape socio-cultural norms and the limits of even more empowered women's – and men's – ability to exert agency over their reproductive lives.

Some trends in South Kivu also resonate with different contributions to theories of 'African Exceptionalism' to 'classic' fertility transitions. For example:

- Economic arrangements, gendered division of labor and generation of livelihoods and resulting socio-cultural constructs resulting from 'hoe agriculture' such as polygamy, importance of extended family, high participation of married females in labor outside the home and high burden of household livelihood generation on the female (Korotayev et al. 2016).

- Strong socio-cultural importance of continuing family lineage and pro-natalist cultural constructs such as early female marriage, quick first birth after marriage and polygamy facilitate persistent high fertility (Caldwell and Caldwell 1987).

- SSA has a profoundly different fertility regime, 'a third way', that is neither spacing nor limiting, and is highly contingent on the uncertainty that permeates everyday life (Johnson-Hanks 2007); contraceptive use to *postpone* next birth until a more/the next 'opportune' time to have a child is more representative of fertility strategies of women in many contexts (Timæus and Moultrie 2008, Moultrie, Sayi, and Timæus 2012).
- Given the above points, parity-specific fertility planning – and family planning education messages which rely on parity-specific planning - do not fit with SSA socio-cultural conceptions of fertility and reproduction (Bledsoe and Banja 2002).

Contrary to classic fertility transition theories, gender analyses are very present if not foundational to many 'African Exceptionalism' analyses.

What the findings of this dissertation also support, however, is that no one of these theories – classic or 'exceptionalist' – fully captures the push, pull and negotiation of multiple, shifting and intersecting factors women especially experience over the course of their reproductive lives. First, while certainly connected to larger economic developments, fertility trends cannot be fully explained by exclusively focusing on generic, de-contextualized economic growth. For example, classic conceptions of fertility largely de-historicize fertility and reproduction (Greenhalgh 1995). In DRC, 20th century colonial priorities to increase fertility concurred with missionary efforts to 'modernize' local populations and health interventions which decreased mortality but were often forced upon local populations (Hunt 1999). Short birth intervals, high fertility and resistance to/suspicion of contraception in South Kivu cannot therefore be divorced from regional colonial histories of reproductive manipulation in which they are embedded, nor do they exist outside the specificities of contemporary political and economic realities facing South Kivu families. Any understanding of fertility in this setting requires the integration of uncertainty, contingency and risk as shifting, socially-constructed and mutually-constitutive forces are at play in a network of multiple actors and factors. Though African exceptionalist theories do tend to consider a broader range of factors than classic theories do, uncertainty and gender power dynamics among them, they still tend to offer rather static views of fertility.

This dissertation, therefore, contributes to bodies of post-classic demographic transition literature which form the 'social and political economies' of reproduction (Greenhalgh1995). I at once argue for continued consideration of how demographic transition literature can

contribute to understanding of fertility in different contexts but also how the underlying politics, discourse and historical contexts of fertility theories speak to larger power dynamics including colonial exploitation, global and local socio-economic inequalities, racist and classist sentiments and a number of normative assumptions relating to fertility (for example, access to contraception is the only barrier keeping women in developing countries from having fewer children) which I have shown do not hold in South Kivu.

14.3 Implications for research, policy & programming

Most current frameworks for SRH research, such as the focus on individual autonomy and empowerment in reproductive decision making, position reproduction and fertility as individual or couple concerns, removing people from constellations of influential actors and factors that affect and shape their reproductive navigation. In much of the framing of policy and programming, fertility preference is viewed as static, low fertility related to a cost-benefit logic and contraceptive uptake is promoted as an individual strategy out of abject poverty and poor health. These perspectives do not frame reproduction and fertility as socially-embedded processes and, therefore, do not speak to local perspectives and influences on reproduction and fertility. As Figures 14.1 and 14.2 aptly illustrate, research to address lasting change and the ways research findings are translated into interventions must necessarily consider the complex systems and socio-cultural frameworks within which individuals are embedded such as influential kinship and community actors, health systems and national and international policies (Stephenson et al. 2007a, White et al. 2013, Aubel 2012, Finlay and Fox 2013).

The culture and logistics of the health and development field often demand simple research and analysis methods and measures and, subsequently, straightforward programmatic approaches and outcome goals for what are quite complex problems (Nichter 2008). Increasing contraceptive uptake is a prime example: a straightforward, easily measureable goal that demands the distribution of technological innovation with little systems input. However, as this dissertation illustrates, pursuing and measuring contraceptive uptake alone not only ignores other influential determinants of reproduction and fertility but also ignores the continuum of behavior change that leads to eventual consistent use of contraception; in short, the complexity of the 'problem.' From perspectives such as the reproductive justice movement, comprehensive SRH includes development indicators such as clean water, access to livelihoods and education. Research methods and programmatic strategies that truly seek to understand and address determinants of SRH will necessarily be complex and most likely integrated with broader development strategies and priorities. Evidence from the last 50+ years demonstrates that simple, vertical family planning programming that does not consider local perspectives has not met anticipated goals of contraceptive uptake, reduced fertility and lower

maternal and child mortality in much of SSA (Foley 2007, Blackstone, Nwaozuru, and Iwelunmor 2017, Ackerson and Zielinski 2017); it is time to admit that the challenges associated with reproduction, fertility and SRH are complex, at least in part the fallout of complicated political conflicts and centuries of systemic Colonial oppression and power inequities. Therefore addressing these challenges will, in most cases, necessarily be complex as well.

I do not, however, argue to categorically dismiss the goals of initiatives like FP2020 to increase access to contraception for all women; instead I argue to ensure these initiatives are situated within comprehensive approaches framed in the comprehensive vision of the reproductive justice movement. Contraceptive technologies *can* facilitate a great amount of autonomy and agency in women's and men's lives. However, as this dissertation also illustrates, making increased contraceptive uptake the only goal of family planning initiatives will fail to fill the reproductive and fertility needs of a large part of the population. Specifically concerning service delivery, when and where contraception uptake is prioritized it should be embedded in parallel interventions to improve health systems so that women and men have access not only to contraceptive methods but also comprehensive systems of support and care in the case of, for example, contraceptive side effects, complications or easy and fast termination or removal of methods. Other comprehensive SRH services include a wide range of information on contraceptive options, not just those which are hormonal and long-lasting, widely available and confidential sexually transmitted disease detection and treatment and generally accessible health services. Reducing social distance between SRH service users and SRH services should not come at the cost of safe use of contraception. Increasingly popular community- and self-administered contraceptives, such as self-injectable contraceptives, for example are particularly worrisome 'quick fixes' to increasing contraceptive use as most are not accompanied by comprehensive, supportive follow-up care (Binanga and Bertrand 2016, 2017, Kim, Fonhus, and Ganatra 2017).

Other supply and demand-side strategies growing in popularity to improve SRH services delivery and uptake, particularly the uptake of modern contraception, should be viewed with caution. PBF and CCTs were two such approaches considered in this dissertation. First there are concerns that PBF will negatively impact the delivery and quality of non-targeted services (Eldridge and Palmer 2009, Falisse et al. 2015b). More directly detrimental to SRHRs of beneficiary populations, especially in health systems where providers are not paid well or regularly, financial incentives to distribute particular methods of contraception may incentivize providers to prioritize contraceptive uptake over patients' well-being (see Chapter 2) (Blacklock et al. 2016).

CCTs in general are critiqued especially where they target poor populations for not only insinuating that lack of service use is due to individuals' poor intelligence or motivation (rather than the multiplicity of factors and barriers this dissertation reveals) but also for potentially influencing individuals to engage in or adopt behaviors they otherwise would not in the absence of monetary incentives (Blacklock et al. 2016, Voigt 2017) (see Chapter 4). In the context of SRHR these strategies fall dangerously close to – or have they already crossed the line into? – the coercive undertones and actions of population control strategies (Hartmann 2016).

While some SRH challenges will necessitate complex and integrated interventions, other solutions may be quite straight forward. For example, in place of PBF interventions which raise concerns about creating perverse incentives for providers, implementers could instead work with local and national ministries of health for sustainable strategies to ensure providers are paid adequately and on time, alleviating much of the administrative burden associated with some PBF schemes. In a demand side example, the ethical concerns surrounding CCTs in promoting SRH behaviors including the use of contraceptive methods could be eliminated if cash transfers were unconditional (Benhassine et al. 2013, Ferguson 2015, Voigt 2017). James Ferguson posits that, more broadly than SRH concerns, individuals may simply be:

> …entitled to [unconditional] cash payments as rightful shares that are due to owners…rooted in a conviction that citizens (and particularly poor and black citizens) are the *rightful owners* of a vast national wealth…of which they have been unjustly deprived through a historic process of racialized dispossession (2015).

Regular, unconditional cash transfers to particularly vulnerable populations could achieve a number of challenges that intersect with fertility and SRH including unequal gendered power dynamics and access to resources, women's limited self-efficacy, opportunities to invest in sustainable livelihoods, access to health services and insurance against catastrophic expenditures.

In addition, this research highlights the integral role uncertainty plays in reproductive decision making. An overall reduction in contextual uncertainty, a break from the 'routinized state of uncertainty' (for example, regional security and an end to violent conflict) could shift the dynamics within which women and men make reproductive decisions toward more predictable life circumstances and, perhaps, conscious realization of reproductive desires and preferences. However, being that regional and global politics are beyond the scope of influence of most development programs (an exception perhaps being organizations with profound political and financial influence such as the Bill and Melinda Gates Foundation), approaches

like regular cash transfers could play a big part in reducing uncertainty on the local level by regularizing at least a minimum household income. NGOs and government also have their roles to play by investing in long-term and more sustainable health and development strategies rather than oft-changing health programs that prioritize or subsidize particular services over others and then disappear after only some months or in the best case scenarios years. Adopting reproductive justice movement perspectives as described above, for example, would integrate more general health and development indicators and strategies with those of SRH.

Finally, given the dominant role gendered power dynamics played in reproduction and fertility in South Kivu, gender transformative strategies should absolutely play a central role in SRH research, programmatic strategies and wider health and development initiatives. Initiatives linked to SRH should aim to increase the self-efficacy of women not only by re-distributing resources but also by addressing unequal distribution of socio-cultural and material power and influence between women and men. Cash transfers, again, could have a role to play in gender transformation but community-led processes with influential community actors have also shown success in improving gendered power dynamics in other SSA settings (Doyal 2001, Barker et al. 2007, Barker et al. 2010, Connell 2012). Increasing women's powered positions relative to men could also reduce uncertainties surrounding repercussions related to social consequences of particular fertility decisions such as wanting smaller families or prolonging birth intervals between children.

14.4 Strengths & limitations of research and findings

The use of both quantitative and qualitative methods in this study allowed for more in-depth, robust and contextualized inquiry into research topics. Participant narratives and lived realities drove research including the longitudinal quantitative study while multiple field visits for qualitative data collection allowed research approaches and questions to evolve as themes emerged. Qualitative and quantitative findings were in conversation with each other over the course of field work and analysis; together findings offer a more complete perspective on the realities of reproduction, fertility and family planning in context. The quantitative analysis including in this dissertation applied a new perspective to an influential outcome measure in SRH programming (contraceptive uptake); it is hoped applying a theoretical model to this outcome will better inform future analyses of contraception use. In addition research demonstrates that qualitative approaches, including ethnographic methods, can play an important, informative and tangible role in theoretical and practical questions surrounding health and development. The methods used in this work can be employed across settings and make significant contributions to diverse health policy and programming priorities.

The research context was particularly challenging. Security concerns, lack of infrastructure, difficult terrain and challenges reaching potential participants affected the amount and kind of field work that could be done including extensive ethnographic stays in local communities. These factors may also have prevented me from including more marginalized populations in our qualitative sample population. Lack of infrastructure and communication difficulties resulted in a relatively high loss to follow up for the second round of the longitudinal survey and we suspect some selection bias on the part of our local research teams however this was accounted for in statistical analysis (see Chapter 11). In addition, most participants in the longitudinal study spoke local, unwritten languages as their first language and we were unable to translate the survey into local languages. Most respondents spoke Swahili fluently as a second language and were able to easily understand survey questions but may have answered in local languages. This is a limit of our longitudinal study as it would have been preferable to conduct interviews in respondents' first language.

Specific findings of qualitative research may only be applicable to contexts which are similar to South Kivu province in socio-cultural constructs and fragile political and security challenges; however, methodological approaches and analytical frameworks could be useful in future explorations in other settings. The number of men (n=3) and older women (n=4) interviewed was very low. While I planned on selecting women of reproductive age as my targeted informants from the inception of research, interviewing more men would have given a more rich understanding of research questions, especially gendered power dynamics. Older women could also have provided insight into previous reproductive practices such as post-partum taboos and fertility control before the introduction of modern contraception into the research contexts as well as exploring older women's potential and actual perceptions of and roles in interpreting/spreading current SRH discourse. Any future work on this topic would benefit from more interactions with these two particular actors.

14.5 Conclusion: an opportune time to re-frame sexual and reproductive health frameworks, policies and programming

This dissertation is a contribution to the interdisciplinary voices of feminists, activists, health and development actors and scholars at the local and global level calling for a change. Decades of investment in contraceptive programs focused primarily on service delivery and FP uptake have yielded disappointing results across most of SSA: maternal mortality and fertility remain high, women continue to express dissatisfaction with reproductive outcomes and SRH services and contraception uptake is low. Analyses of reproduction and fertility in South Kivu open larger debates about the forces and interests driving SRH policy and programming priorities, the inability of current frameworks and approaches to meet women's

and men's reproductive, health and development needs and persistent gendered power dynamics that severely limit women's exercises of agency.

This research demonstrates that reproduction, fertility and family planning are socially-embedded processes and are shaped by a multiplicity of influencing factors and actors that shift over the course of a reproductive lifetime. Gendered power dynamics permeate each sphere of influence concerning reproduction and fertility in South Kivu while questions of uncertainty, contingency and risk underlie reproductive intentions, actions and outcomes. Many of the implications of this research suggested above – such as gender transformative approaches to SRH and long-term programmatic investment over short-term, vertical strategies – are not necessarily novel. These recommendations have lined the Discussion sections of research articles, WHO recommendations, NGO reports and government findings for decades. However, the fact that these same implications are still being suggested, instead of implemented and evaluated, proves that they have not yet been widely undertaken by funding and implementing bodies.

Given the documented shortcomings of current frameworks and strategies and with funding and interest in global health in developing countries relatively well-supported and discussed in interdisciplinary circles, it is an opportune moment for the health and development community to re-examine strategies, messages and programs for comprehensive SRH service delivery. I argue that embedding reproduction in multi-dimensional spheres of influence and outcomes is essential in understanding and resolving contemporary SRH challenges in South Kivu and other contexts. While interventions for comprehensive care that go beyond service delivery and contraceptive uptake may necessitate a more complex engagement of actors and influences, such contextually-embedded and -driven approaches may respond more directly to the constellation of factors that influences and often limits reproductive decision making. These strategies may also be more cost-effective than currently employed, vertical strategies focused on contraceptive uptake only.

From a Public Health perspective, fertility, reproduction, family planning and contraception sit at the intersection of health, rights and gendered and global power dynamics, the framing of which has far reaching implications for local and broader global health discourses, strategies, outcomes and justice movements. A reproductive justice lens which broadens the priorities of SRH domains and aims to empower individuals, couples and communities within ecological models of change could facilitate a drastic and positive shift in the SRH field towards achieving more positive reproductive outcomes and facilitating the realization of reproductive rights, especially for historically marginalized and vulnerable populations.

Appendices

Appendix A. Transcript of Patrice Lumumba's Independence Day Speech in front of departing Belgian authorities. June 30, 1960. Leopoldville.

Men and women of the Congo:

Victorious fighters for independence, today victorious, I greet you in the name of the Congolese government. All of you, my friends, who have fought tirelessly at our sides, I ask you to make this June 30, 1960, an illustrious date that you will keep indelibly engraved in your hearts, a date of significance of which you will teach to your children, so that they will make known to their sons and to their grandchildren the glorious history of our fight for liberty.

For this independence of the Congo, even as it is celebrated today with Belgium, a friendly country with whom we deal as equal to equal, no Congolese worthy of the name will ever be able to forget that is was by fighting that it has been won [applause], a day-to-day fight, an ardent and idealistic fight, a fight in which we were spared neither privation nor suffering, and for which we gave our strength and our blood.

We are proud of this struggle, of tears, of fire, and of blood, to the depths of our being, for it was a noble and just struggle, and indispensable to put an end to the humiliating slavery which was imposed upon us by force.

This was our fate for 80 years of a colonial regime; our wounds are too fresh and too painful still for us to drive them from our memory. We have known harassing work, exacted in exchange for salaries which did not permit us to eat enough to drive away hunger, or to clothe ourselves, or to house ourselves decently, or to raise our children as creatures dear to us.

We have known ironies, insults, blows that we endured morning, noon and evening, because we are Negroes. Who will forget that to a Black one said "tu", certainly not as to a friend, but because the more honorable "vous" was reserved for whites alone?

We have seen our lands seized in the name of allegedly legal laws, which in fact recognized only that might is right. We have seen that the law was not the same for a white and for a Black – accommodating for the first, cruel and inhuman for the other.

We have witnessed atrocious sufferings of those condemned for their political opinions or religious beliefs, exiled in their own country, their fate truly worse than death itself.

We have seen that in the towns there were magnificent houses for the whites and crumbling shanties for the Blacks; that a Black was not admitted in the motion-picture houses, in the restaurants, in the stores of the Europeans; that a Black traveled in the holds, at the feet of the whites in their luxury cabins.

Who will ever forget the massacres where so many of our brothers perished, the cells into which those who refused to submit to a regime of oppression and exploitation were thrown [applause]?

All that, my brothers, we have endured. But we, whom the vote of your elected representatives have given the right to direct our dear country, we who have suffered in our body and in our heart from colonial oppression, we tell you very loud, all that is henceforth ended.

The Republic of the Congo has been proclaimed, and our country is now in the hands of its own children. Together, my brothers, my sisters, we are going to begin a new struggle, a sublime struggle, which will lead our country to peace, prosperity and greatness.

Together, we are going to establish social justice and make sure everyone has just remuneration for his labor [applause].

We are going to show the world what the Black man can do when he works in freedom, and we are going to make of the Congo the center of the sun's radiance for all of Africa.

We are going to keep watch over the lands of our country so that they truly profit her children. We are going to restore ancient laws and make new ones which will be just and noble.

We are going to put an end to suppression of free thought and see to it that all our citizens enjoy to the full the fundamental liberties foreseen in the Declaration of the Rights of Man [applause].

We are going to do away with all discrimination of every variety and assure for each and all the position to which human dignity, work and dedication entitles him.

We are going to rule not by the peace of guns and bayonets but by a peace of the heart and the will [applause].

And for all that, dear fellow countrymen, be sure that we will count not only on our enormous strength and immense riches but on the assistance of numerous foreign countries whose collaboration we will accept if it is offered freely and with no attempt to impose on us an alien culture of no matter what nature [applause].

In this domain, Belgium, at last accepting the flow of history, has not tried to oppose our independence and is ready to give us their aid and their friendship, and a treaty has just been signed between our two countries, equal and independent. On our side, while we stay vigilant, we shall respect our obligations, given freely.

Thus, in the interior and the exterior, the new Congo, our dear Republic that my government will create, will be a rich, free and prosperous country. But so that we will reach this aim without delay, I ask all of you, legislators and citizens, to help me with all your strength.

I ask all of you to forget your tribal quarrels. They exhaust us. They risk making us despised abroad.
I ask the parliamentary minority to help my government through a constructive opposition and to limit themselves strictly to legal and democratic channels.

I ask all of you not to shrink before any sacrifice in order to achieve the success of our huge undertaking.

In conclusion, I ask you unconditionally to respect the life and the property of your fellow citizens and of foreigners living in our country. If the conduct of these foreigners leaves something to be desired, our justice will be prompt in expelling them from the territory of the republic; if, on the contrary, their conduct is good, they must be left in peace, for they also are working for our country's prosperity.

The Congo's independence marks a decisive step towards the liberation of the entire African continent [applause].

Sire, excellencies, mesdames, messieurs, my dear fellow countrymen, my brothers of race, my brothers of struggle – this is what I wanted to tell you in the name of the government on this magnificent day of our complete independence.

Our government – strong, national, popular – will be the health of our country.

I call on all Congolese citizens – men, women and children – to set themselves resolutely to the task of creating a prosperous national economy which will assure our economic independence.

Glory to the fighters for national liberation! Long live independence and African unity! Long live the independent and sovereign Congo! [applause, long and loud]

Appendix B. Global sexual and reproductive health discourse in South Kivu family planning education materials

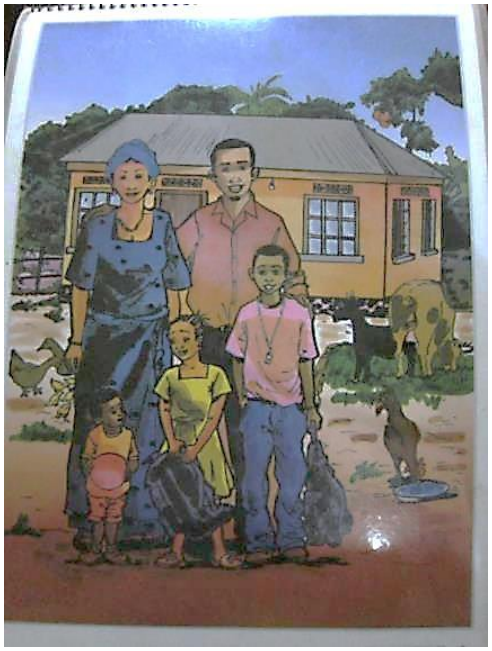
An example of South Kivu family planning education materials illustrates how global SRH discourse makes its way to local populations, shaping the SRH and family planning messages delivered in local contexts. These materials communicate 1) particular theoretical assumptions which, in the context of findings from this dissertation, may not always speak to the constellations of factors which shape reproduction, fertility and family planning in local contexts and 2) wider discourses that drive global SRH policy and programming. Analysis of these materials gives insight into the histories, assumptions and power structures at play in the global SRH arena.

Figure B.1 is an image used in community- and facility-based family planning sensitization sessions in South Kivu during my field work, produced by USAID in partnership with the DRC national program for SRH (PNSR) and other NGO partners (rights for reproduction obtained). The facilitator of the sensitization session asks the group what they notice in the photo, titled 'A Good Family.' The facilitator is prompted to highlight:

- The family's good health including the mother's 'youthful appearance as a result of her planning her births'
- The children's health and strength due to health service use
- The couple's happy relationship
- The family's good nutrition

Figure B.1 Image of a 'good family' used in family planning education materials in the study area

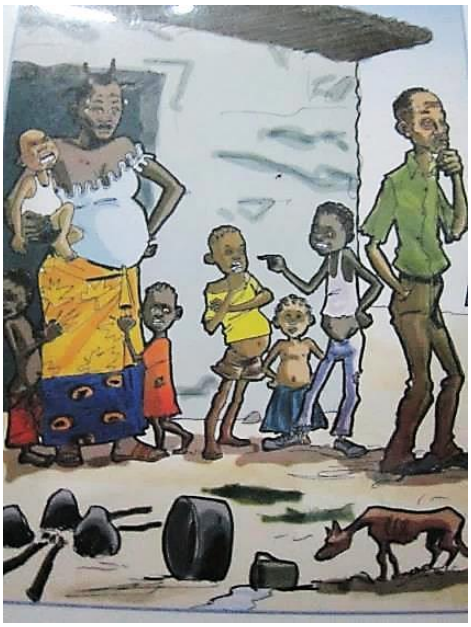
(USAID n.d.)



The next image the facilitator shows the group is in Figure B.2. Participants are asked to reflect on the 'difficulties' they notice in this photo, directly linked to the fact that this family did not space births:

- Lack of money and general poverty
- Incapable of paying for health services or children's education
- Poor health
- Generally unhappy
- Landless, no source of livelihood generation
- The father figure is 'sickly, weak and regretful'

Figure B.2 Image of a family which did not practice family planning used in family planning education materials in the study area



(USAID n.d.)

The education materials go on to follow the narrative of the first family and how they used modern contraception to space their births and finally limit their number of children to three. The contrasting images communicate clear messages: by spacing and limiting births [using a modern method of contraception] your family will be happy and healthy. A well-constructed house with glass windows, modern, western clothing, the ability to invest in livelihoods and

marital and familial cohesion all follow the choice to space births and limit family size – with the assistance of modern contraception.

This discourse is first founded on Malthusian demographic theory that assumes the SSA transition to low fertility will inevitably follow western patterns (Davis 1945, Notestein 1945), idealizing the small, 'modern' (western) nuclear family presented in Figure B.1. In addition, this justification for family planning utilizes consumer choice theories whereby family size is best determined through cost-benefit analyses of resources and returns (Becker 1960, Caldwell 1978). As described in Chapters 12 and 13, the Catholic church's family planning messages ('*maternité responsable*') in DRC echo this approach by encouraging fertility limitation based on a household's available financial means. The idealization of the nuclear family runs contrary to most SSA contexts where extended kinship and other socio-cultural networks heavily influence reproductive decisions and provide systems of social support.

Most striking about this framing of the benefits of family planning is the strong moral insinuations the images and accompanying discussions portray. Only the wealthiest, land-owning and influential families in South Kivu would own a modern house portrayed in the first image. In addition, many of the families who do own well-constructed houses and can afford to send all of their children to school in rural South Kivu have many children; their wealth does not necessarily come from low fertility. With six living children and expecting another child, the family in Figure B.2 is below the TFR of South Kivu province and much more relatable to most women who participate in family planning sensitization sessions than the second family with only three children. In fact, many people in rural contexts in South Kivu might pity a woman who has 'only' three young children. By insinuating that lower fertility brings material wealth, family planning education materials also insinuate that higher fertility is the cause of poverty; as Hartmann asserts these strategies 'blame the poor for their own poverty' (2016:xi) rather than the multitude of global and local unequal power dynamics which produce and perpetuate uneven distribution of resources and limited economic opportunities. For many families high fertility is their only chance at possibly obtaining material wealth and security through the potential future success of their kin networks. A small family, in this instance, is a disadvantage.

Finally, the comparison of the two families creates a problematic 'othering' of particular populations and behaviors. Lupton aptly situates the role of public health messages in facilitating this process:

> Although public health discourse presents itself as dispassionately expert and rational, its strategies incite/reproduce stigma, marginalization, blaming, shame, disgust, fear, and exclusion of certain groups…despite the veneer of medico-

> scientific rigor and disinterested rationality of medicine/public health, a close examination of PH reveals affective repertoires and practices that underpin it (2012:634;642).

SRH discourse, therefore, via the 'dispassionately expert and rational' vehicle of public health, frames health behaviors as moral issues: in order to create a new social norm of lower fertility, SRH messages create a new morality. Family planning, and in particular modern contraception, is framed as modern – associated with western clothes, material wealth, health and happiness. Women in particular who do not use contraception are, then, the opposite: backward and immoral, shamed and to blame for their poverty, their own ill-health and that of their children and even the disinterest, possible infidelity, of their partners (note how the father in the second family turns his back on his wife, looking outside the marriage).

Betsy Hartmann records a recent statement by celebrated albeit highly criticized biologist and population scholar Paul Ehrlich:

> …Letting women have as many babies as they want is like allowing everyone to 'throw as much of their garbage into their neighbor's backyard as they want' (Ehrlich in Hartmann 2016:xii).

Ehrlich does little to hide the elitism – and misogyny – driving his framing of SRHR; his comments unveil that the racist and western-centric sentiments that drove eugenic programs of population control a century ago are in fact alive and well in some circles, making analyses of discourse and foundational values driving SRH programs all the more timely and imperative.

Despite Ehrlich's comments and the active, counter-SRHR movements he represents, I do not believe that [most] policy makers and program designers set out to *consciously* create these constructs of othering, blaming and shaming. Rather, these analyses are important in order to reveal the western-centric assumptions driving SRH discourse which have normalized racist and classist language and perspectives. The realization of SRHR requires a re-examination of these normalized, foundational assumptions because not only are they inherently unjust but they have even failed at bringing about their stated aims: women's empowerment and lower fertility rates.

Annexes

Annex A. Ethical approval for the study

REPUBLIQUE DEMOCRATIQUE DU CONGO
MINISTERE DE LA SANTE PUBLIQUE
PROVINCE DU SUD KIVU
INSPECTION PROVINCIALE DE LA SANTE
B.P. 1899 BUKAVU

COURRIER ARRIVE
12 DEC 2013

Bukavu, le 09/12/2013

N° 251/1463/B.MIP/SK/2013

Objet : Enquête sur la Santé de la reproduction

A Monsieur le Chef d'Equipe du CORDAID/Bukavu
à BUKAVU

Monsieur le Chef d'Equipe,

J'accuse réception de votre lettre N°/Réf : Cordaid/CdE/126/2013 du 28/10/2013 relative à la demande d'une approbation d'éthique et vous en remercie.

Après analyse du protocole, nous donnons notre approbation sur l'organisation d'une enquête sur la Santé de la reproduction dans le cadre du Projet : Making Sexual and Reproductive Health Services work for the next Generation.

Par rapport à l'Ethique, nous vous demandons de nous mettre en contact avec la maison qui sera plébiscité à votre appel d'offre sur l'organisation de cette enquête afin qu'on puisse travailler ensemble.

Veuillez agréer, Monsieur le Chef d'Equipe, l'expression de nos sentiments de franche collaboration.

Le Médecin Inspecteur Provincial

= : Dr Manu BURHOLE MASUMBUKO : =

U.C.B. UNIVERSITE CATHOLIQUE DE BUKAVU, A.S.B.L.

Commission Institutionnelle d'Ethique (CIE)

Bukavu, le 13/01/ 2015

N/Réf : UCB/CIE/NC/01B/2015

Objet : Notre avis

SONJA Merten (Swiss PTH)
BISIMWA Ghislain (ERSP/UCB)
à Bukavu - RDC

La Commission Institutionnelle d'Ethique de l'Université Catholique de Bukavu a le plaisir de vous annoncer l'avis favorable à votre projet de recherche.

Votre protocole d'étude intitulé **«L'efficacité du Conditional Cash Transfer (CCT) sur les consultations prénatales (CPN), l'accouchement médicalisé et l'espacement des naissances »** a été approuvé. L'avis que nous émettons porte le **Numéro d'ordre** suivant : **UCB/CIE/NC/01B/2015.**

Pour rappel, la Commission se base sur les éléments suivants :

1. Pertinence du protocole ;
2. Respect de la personne humaine (consentement éclairé, nocivité, risques-bénéfices…) ;
3. Méthodologie…

Tout en vous remerciant pour cette collaboration, nous vous prions d'agréer l'expression de nos sentiments de haute considération.

Prof. Bagendabanga Macece

Secrétaire de la CIE

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Swift : BCDCCDKI

- BIAC :
N° 330-47176701-37
Swift : BIACCDCDKI

Ethikkommission Nordwest- und Zentralschweiz EKNZ

Präsident
Prof. André P. Perruchoud
Vizepräsidenten
Prof. Gregor Schubiger
Dr. Marco Schärer

Dr. Sonja Merten
Swiss Topical- and Public Health-Institute
Socinstrasse 57
4002 Basel

Basel, 13th April 2015

EKNZ UBE-15/04:
Effectiveness of Conditional Cash Transfers (CCT) on the Use of Antennal Care, Institutional Delivery and Birth Spacing (CCTBS)

Dear Dr. Merten

On the occasion of its meeting (22/01/2015), the Ethics Committee of Northwestern and Central Switzerland EKNZ checked the research project *"Effectiveness of Conditional Cash Transfers (CCT) on the Use of Antennal Care, Institutional Delivery and Birth Spacing (CCTBS)"*.

This research project was evaluated according to the ICH-GCP (International-Conference on Harmonisation - Good Clinical Practice) guidelines. It conforms to the conditions that have to be met for research studies in Switzerland, namely:

- scientific validity and relevance of the research project and of the results that are to be expected;
- favourable benefit-risk ratio;
- consent of the study subjects;
- protection of the private sphere and confidentiality;
- professional qualification of the Swiss research scientists involved in the project;
- Definitions of the qualifications that are required of the other research scientists involved.

Whether the project can be accepted from ethical points of view depends on the local circumstances, which could not be assessed. In particular, the present statement does not consider the following points:

- procedure and documentation for recruitment of the study subjects, especially the information sheets and consent forms written in the local language;
- the adequacy of the local infrastructure (material, premises, personnel etc.) with regard to the best possible protection of the study subjects;
- Professional qualification of the non-Swiss research personnel.

The points listed above should be assessed by the responsible ethical research committee(s) of the place(s) where the project is carried out.

J.

The Ethics Committee of Northwestern and Central Switzerland acknowledges the revised Documents (Summary - Version 1.1 21/03/15 & Study Protocol - Version 1.1 21/03/15).

Sincerely yours

Prof. A. P. Perruchoud
President of the EKNZ

Annex B. Longitudinal community survey of women of reproductive age

Idjwi, Katana, Miti Murhesa, South Kivu, Democratic Republic of Congo

Question / texte en français	Réponses en français	Question / texte en swahili	Réponses en swahili	Skip / notes
Questions préliminaires				
Données GIS				
Le géopoint (GIS) est enregistré?	0 Non 1 Oui			
Si vous ne pouvez pas obtenir les données les points GIS, décrivez l'emplacement de la maison				Ne lisez pas. selected(${ gis}, '0')
Nous cherchons des femmes qui ont accouché entre Juillet 2013 et Mars 2014 pour participer dans une enquête sur l'utilisation des services de santé maternelle. Nous voudrions en savoir plus sur les pratiques des femmes pendant la grossesse. Nous allons utiliser cette information pour améliorer les services de santé maternelle et les programmes qui encouragent les femmes d'utiliser ces services. Nous vous invitons à répondre à quelques questions qui concernent votre vie, vos grossesses et vos choix autour		Tunawatafuta wanawake waliyo zaa mwezi ya saba mwaka 2013 mpaka mwezi wa tatu mwaka 2014 ili wa sherekeye matafuti kuusu ku tumiya bifaa bya afya ya wa mama. Tunapenda tu elewe zaidi kuusu mazowezi katika mimba. Tutatumiya ayo ku tengeneza bifaa ivyo. Tunawaalika kujibu ku swali izi kuusu maisha yenu, uzazi yenu na chaguo yenu kuusu afya ya uzazi.		

de la santé de la reproduction et fertilité.				
Si vous participez, vos informations et vos réponses aux questions resteront complètements anonymes ; nous n'allons pas partager vos réponses avec personne y compris votre mari, votre famille, les prestataires, ou d'autres personnes. Personne ne sera présent pendant l'enquête sauf l'enquêtrice. Nous ne cherchons pas certaines réponses à nos questions, seulement vos perspectives.		Mukishiriki mkutano uyu yote tutao zungumuza ita baki kati yetu bila kuangaliya nani alijibu nini. Akuna mutu wozote ataye juwa nini tumezungumuza iwe mume, jamaa ao wanganga ao mutu wowote. Akuna jibu nzuri ao mbaya tunapenda tujuwe gisi munawaza.		
Vous ne recevrez pas d'argent ou d'autres cadeaux pour votre participation. Vous ne devez pas payer pour participer. Si vous voudriez participer, je dois obtenir votre signature sur ce formulaire de consentement qui dit que vous comprenez bien notre étude et vous voulez particper. Est-ce que vous voudriez participer?		Akuna zawadi mutapewa na akuna malipo ku sherekeya mkutano uwu. Mukiitika tuendeleye niko nalazima ya signature kuonesha kama mumesikiya mzuri nini tutazungumuziya. Munaitika ku shereye?		
FORMULAIRE DE CONSENTEMENT	0 Non 1 Oui			Ne lisez pas. selected(${ c_form}, '0')

Merci pour votre temps. Nous ne commencons pas l'enquête sans votre permission.		Aksante kwa wakati yenu. Muki ruhusu tutaanza		
Enter survey start time				
Today's date				
Survey start time				
Section 0.0 Identification				
0.0 Device ID				
0.1 L'heure de début de l'enquête				
0.2 Code de l'enquêtrice	__ __			
0.3 Health Zone	1 Idjwi 2 Miti Murhesa 3 Katana			
0.4 Aire de santé	_____			
0.5 Village	_____			
0.6 Numéro de la femme	___ ___			
0.7 Date de la viste	__ __ /__ __ / __ __ __ __			
Section 1.0 Questions préliminaires				
Merci beaucoup pour votre participation dans notre enquête. Je voudrais commencer avec quelques questions qui concernnent votre ménage et votre eligibilité pour l'enquête. Vous pouvez arrêter l'enquête à n'importe quel moment.		Aksante saana kuitika ku sherekeya matafuti iyi. Tutaanza na swali kidogo kuusu jamaa yenu. Muteneya acha saa munapenda		
Quel est un numéro de téléphone où nous pouvons vous contacter? On ne partagera pas ce numéero avec personne.		Uteneya kuwa na number ya simu tuteneya zungumuziya ako? Yako? Atutaipatiya mutu		

Avez-vous un deuxième numéro de téléphone? Si oui, quel est ton deuxième numéro de téléphone?		Uko na number ya sim ingine?		
Vous avez au moins un numéro de téléphone pour la femme?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Vous avez au moins un numéro de téléphone pour la femme?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	
Si vous n'avez pas un numéro de téléphone, décrivez l'emplacement de la maison.		Si vous n'avez pas un numéro de téléphone, décrivez l'emplacement de la maison.		selected(${ mobile_confirm}, '0')
Quel jour, quel mois et quelle année êtes-vous né(e) ?		Siku gani, Mwezi gani na Mwaka gani ulizaliwa ?		
Quel âge avez-vous ?		Una umri gani ya kuzaliwa ?		
Avez-vous accouchée au cours de 2013 ou 2014 ? Est-ce que vous avez votre carnet de contrôle et/ou l'acte de naissance pour votre enfant qui est né pendant 2013 ou 2014?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umezaa katika mwaka 2013 ao 2014?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Vous avez accouché dans quel mois au cours de 2013 ou 2014?	1 Janvier 2 Fevrier 3 Mars 4 Avril 5 Mai 6 Juin 7 Juillet 8 Août	Mwezi gani umezaa?	mwezi wa kwanza mwezi wa pili mwezi wa tatu mwezi wa ine mwezi wa tano mwezi wa sita mwezi wa saba mwezi wa mnane	selected(${ birth_year}, '1')

	9 Septembre 10 Octobre 11 Novembre 12 Decembre		mwezi wa kenda mwezi wa kumi mwezi wa kumi na moja mwezi wa kumi na mbili	
Quelle est la date de naissance de votre dernier(e) né(e) ?	__ __ /__ __ / __ __ __ __	Mtoto wako wa mwisho alizaliwa siku gani ?	__ __ /__ __ / __ __ __ __	
Puis-je confirmer votre identité?		Tumemaliza masungumzo. Aksante kwa ku shirikiya mzuri. Mcana mwema		selected(${ birth_year}, '0') or selected(${ birth_month }, '4') or selected(${ birth_month }, '5') or selected(${ birth_month }, '6')
Nous terminons l'enquête ici parce que nous nous interessons par les femmes qui ont accouché entre juillet 2013 et mars 2014. Est-ce qu'il y a une autre femme dans ce ménage qui a accouché entre juillet 2013 et mars 2014? Merci pour votre participation.		Tunamaliza mazungumuzo iyi hapa sababu inaelekeya wanawake waliyo zaa mwezi wa saba 2013 mpaka mwezi wa tatu mwaka 2014. Katika wakati uu kunamwanamke wa jamaa uu?		selected(${ birth_year}, '0') or selected(${ birth_month }, '4') or selected(${ birth_month }, '5') or selected(${ birth_month }, '6')

Quelle est la date de naissance de votre dernier(e) né(e) ?	__ __ /__ __ / __ __ __ __	Mtoto wako wa mwisho alizaliwa siku gani ?	__ __ /__ __ / __ __ __ __	
Est-il/elle en vie?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Iko muzima	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Quel est le sexe de votre dernier(e) ne(é)?	0 Garcon 1 Fille	Ni binti ama kijana mume	0 Mume 1 Muke	
Votre dernier(e) né(e) a quel âge?		Mtoto huyu, ana myaka ngapi ?		
Quel est la date de naissance de votre avant dernière enfant ?	__ __ /__ __ / __ __ __ __	Mtoto wako wa pili mwisho, alizaliwa siku na mwaka gani ?	__ __ /__ __ / __ __ __ __	
Est-il/elle en vie?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	iko muzima?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Quel est le sexe de votre deuxième dernier(e) ne(é)?	0 Garcon 1 Fille	uyu wa pili ni binti ao kijana mume?	0 Mume 1 Muke	
Cet enfant a quel âge?		Mtoto huyu, ana myaka ngapi ?		
[Jusq'au 13eme enfant]				
Section 2.0 Questions sociodemographiques				
Maintenant je voudrais poser quelques questions socio-démographiques.		Sasa tuta uliza ulizo za namna ingine		

Qui est le chef de ce ménage ?	1 Moi même 2 Mon mari/conjoint 3 Mon père 4 Ma mère 5 Mon beau père 6 Ma belle mère 7 Mon fils 8 Ma fille 9 Autre (spécifier) 97 Refuse de repondre 98 Ne sait pas 99 Reponse manquante	Nani kichwa ya jamaa?		
Autre, précisez_____		Ingine (Eleza) :_____		selected(${ hhh}, '9')
Quel est votre ethnie?		Uko kabila gani?		ECRIRE.
Quelle est votre affiliation religieuse?	1 Chrétien : catholique 2 Chrétien: protestant 3 Pentecôtiste 4 Adventiste 5 Autre église évangéliste 6 Religion traditionnelle 7 Islam 8 Bouddhiste 9 Eglise sioniste (protestante)	Dini unayoshiriki ni gani ?	Mukristo wa kikatolike Mukristo wa kiprotestanti Wa kipentekoste Wa kiadivantisti Kanisa nzingine za injili Dini ya ki asili Mu islamu Budisti Kanisa ya siyoni /(muprotestanti) Muchanganyiko (diniya u China)	

	10 Confucianiste (religion chinoise) 11 Hindou 12 Juive 13 Autre_____ 0 Non religion 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Ya kihindu Muyahudi Ingine :___ Hakuna dhehebu Akataa jibu Ha juwi Akosa jibu	
Autre, précisez_____		Ingine (Eleza) :_____		selected(${religion}, '13')
Quel est le nom de votre eglise ou mosqué?		jina ya kanisa yenu ao mosquée yenu ni gani?		selected(${religion}, '1') or selected(${religion}, '2') or selected(${religion}, '3') or selected(${religion}, '4') or selected(${religion}, '5') or selected(${religion}, '7')

				or selected(${religion}, '9')
Quel est le niveau le plus élevé de scolarité que vous avez atteint?	1 Aucune 2 Primaire 3 Secondaire 4 Universite, haute école 97 Refuse de répondre 98 Ne sait pas 99 Reponse manquante	Ulisoma mpaka ngazi gani ya juu?	Hatamoja Musingi/primari Secondari Univasti Akataa jibu Ha juwi Akosa jibu	
Vous êtes allée à l'école pendant combien d'années?	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 11	Umesoma myaka ngapi?	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 11	selected(${education}, '2') or selected(${education}, '3') or selected(${education}, '4')

	12 12+		12 12+	
Avez-vous l'assurance de santé (par exemple La Mutuelle)?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Uko mwanamemba ya Mutuelle?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Quel est le nom de votre assurance?		Nani anabagaramiya ku matunzo?		selected(${insurance}, '1')
Quelle est actuellement votre statut matrimonial ou de relation ?	1 Marié(e) 2 Concubinage (sans cérémonie) 3 J'ai une copine / un copain mais on ne vit pas ensemble 4 Divorcé(e) / séparé(e) 5 Veuf / veuve 6 Célibataire 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Hali yako ya sasa ya ndoa ni gani ?	Mwana ndoa Twa ishi kwa kisiri siri Nina mpenzi Hatuishi pamoja Talaka / tuliachanaka Mjane Akataa jibu Ha juwi Akosa jibu	
Depuis combien de temps habitez-vous avec votre partenaire / époux / épouse?	1 Moins d'un an 2 1-5 ans 3 6-10 ans 4 11+ ans	Tangu muda gana unaishi na mume wako ao muke wako ?	cini ya mwezi moya mwaka 1 mpaka 5 Kuanziya myaka 6 mpaka 10 yulu ya 11	selected(${marital_status}, '1') or selected(${marital_status}, '2') or selected(${marital_stat

	97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Anakata ku jibu ajuwi ana jibu	us}, '4') or selected(${ marital_status}, '5')
Votre partenaire, est-il le pére de votre dernier(e) enfant(e)?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mcumba wako leo ndiye baba wa mtoto wako wa mwisho?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ marital_status}, '1') or selected(${ marital_status}, '2')
Le père de votre dernier(e) enfant(e), est-il le père de tous vos autres enfant(e)s?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Baba ya mtoto wako wa mwisho ndiye baba ya watoto wako wote	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Vos enfants ont combien de pères différents?		Watoto wako biko na ba baba ngapi?		selected(${ partner_father_others}, '0')
Est-ce que votre mariage est/ a été monogame ou polygame?	1 Monogame 2 Polygame 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Bwana yako iko na wa bibi wa ngapi?	moya wa mingi anakataa ku jibu ajuwi nakosa jibu	selected(${ marital_status}, '1') or selected(${ marital_status}, '2') or selected(${ marital_status}, '4') or selected(${ marital_status}, '5')
Etes-vous la première femme de votre mari?	1 oui 0 non 97 Refuse de répondre	Uko bibi mukubwa ya bwana yako?	1 Ndiyo 0 Hapana 97 Akataa jibu	selected(${ partnership_type}, '2')

	98 Ne sait pas 99 Réponse manquante		98 Ha juwi 99 Akosa jibu	
Votre partenaire a combien de femmes?		Mcumba wako iko na wa bibi ngapi?		selected(${ partnership _type}, '2')
Combien de personnes vivent dans votre ménage?		Watu ngapi wanaoishi katika hii nyumba yani makao ?		
En comparaison avec la plupart des ménages de votre communauté, vous considérez votre ménage comme étant…	1 Beaucoup plus riche 2 Plus riche 3 Moyen 4 Plus pauvre 5 Beaucoup plus pauvre 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Tuki linganisha sehemu kubwa ya nyumba za jamii, muna kamata nyumba yenu kama vile…	Tajiri sana zaidi Tajiri sana Vili vile Mukosefu sana Mukosefu sana zaidi Akataa jibu Ha juwi Akosa jibu	
Votre ménage a-t-il un revenu? Si OUI, est-il régulier ?	1 Oui, régulier 2 Oui, mais irrégulier 0 Non, nous n'avons pas un revenu. 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Nyumba yenu inamatokeo kipesa ? kama ndiyo, niyakila mara ?	Ndiyo, yakila mara Ndiyo,ila si yakila mara Hapana Akataa jibu Ha juwi Akosa jibu	

Quelle est la source de revenus PRINCIPALE pour votre ménage?	1 2 3 4 5 6 7 97 98 99	Emploi salarié Fonctionnariat Agriculture Commerce Pêche Autre indépendant Autre (préciser) : Refuse de répondre Ne sait pas Réponse manquante	Njiya gani mkuu ya mapato munayo katika jamaa yenu?	posho ya kazi mtumishi kulima kuuzisha kulowa ingine yakipekewe ingine, utueleze ayo anakataa ku jibu ajuwi anakosa jibu	
Autre, précisez_____			Ingine (Eleza):_____		selected(${ hh_income}, '7')
Qui apporte l'argent dans le ménage pour payer les besoins quotidiens ?	1 2 3 4 5 6 7 8	Moi même Mon mari/conjoint Mon père Ma mère Mon beau père Ma belle mère Mon fils Ma fille	Ni nani, anaye leta pesa kwa aljili ya ma pashwa za nyumbani ?	Miye peke bwana/ mcumba Baba yangu mama yangu bamukwe mamukwe mtoyo yangu mume mtoto yangu muke	

	9 97 98 99	Autre (spécifier) Refuse de repondre Ne sait pas Reponse manquante		mwingine mutu umuseme Akataa ku jibu Ajuwi jibu ajuwe	
Autre, précisez_____			Ingine (Eleza):_____		selected(${ money_day exp}, '6')
Qui apporte la plus grande partie de l'argent pour payer les dépenses liées à VOS soins de santé?	1 2 3 4 5 6 7 8 9 97 98 99	Moi même Mon mari/conjoint Mon père Ma mère Mon beau père Ma belle mère Mon fils Ma fille Autre (spécifier) Refuse de repondre Ne sait pas Reponse manquante	Nanianaye leta kituo ki kubwa ku uusu matunzo yako?	Miye peke bwana/ mcumba Baba yangu mama yangu bamukwe mamukwe mtoyo yangu mume mtoto yangu muke mwingine mutu umuseme Akataa ku jibu Ajuwi jibu ajuwe	
Autre, précisez_____			Ingine (Eleza):_____		selected(${ money_hc}, '6')

Selon vous, de manière générale, votre état de santé est…	1 Excellent 2 Très bon 3 Bon 4 Suffisant 5 Mauvais 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kwako mwenyewe kwa jumla,afya yako iko…	Ya juu sana Nzuri zaidi Nzuri Ya kutosha Mbaya Akataa jibu Ha juwi Akosa jibu	
Maintenant je voudrais poser quelques questions sur les ressources dans ce ménage et spécifiquement à qui ces ressources appartiennent.		Sasa nataka uliza kuusu mali ya jamaa, na nani mwenyi zile mali ngombe, nyumba,…		
Est-ce que votre ménage possède l'électricité?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kuna umeme mwako?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Est-ce que votre ménage possède la radio?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kuna redio mwako?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Est-ce que votre ménage possède la télévision?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kuna televisheni mwako?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	

Est-ce que votre ménage possède un téléphone portable?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kuna simu ya mukono mwako?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Est-ce que vous personnellement possedez un téléphone portable?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Una simu ya mukono?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ hhmobile_phone}, '1')
Est-ce que votre ménage possède un vélo?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Jamaa yako iko na kinga?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Le vélo appartient-il à vous (la femme) personnellement?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ile kinga niyako weye mwenyewe?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ bicycle}, '1')
Est-ce que votre ménage possède une moto?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Jamaa yako iko na pikipiki?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
La moto appartient-il à vous personnellement ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ile pikipiki niyako mwenyewe?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ moto}, '1')
Est-ce que votre ménage possède une pirogue?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Jamaa yako ina mtumbi	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	

Vous avez combien de pirogues?			Mitumbi ngapi munao?			selected(${ boat}, '1')
Le pirogue appartient-il à vous personnellement?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Mtumbi iyo ni yako mwenyewe?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	selected(${ boat}, '1')
Avez-vous un moteur pour le pirogue?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Mtumbi yako ina moteri?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	selected(${ boat}, '1')
Est-ce que votre ménage possède les filets de pêche?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Jamaa yako iko na uwavu	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	
Les filets de pêche appartiennt-ils à vous personnellement?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Uwavu izo nizako pekeyako?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	selected(${fishing_nets }, '1')
Votre ménage est propriétaire de votre maison?	1 0	oui non	Jamaa yako iko na nyumba yakipeke?	1 0	Ndiyo Hapana	

	97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Spécifiquement qui dans votre ménage est propriétaire de votre maison?	1 Moi même 2 Mon mari/conjoint 3 Mon père 4 Ma mère 5 Mon beau père 6 Ma belle mère 7 Mon fils 8 Ma fille 9 Autre (spécifier) 97 Refuse de repondre 98 Ne sait pas 99 Reponse manquante	Nani njo mwenyi nyumba ii?	Miye peke bwana/ mcumba Baba yangu mama yangu bamukwe mamukwe mtoyo yangu mume mtoto yangu muke mwingine mutu umuseme Akataa ku jibu Ajuwi jibu ajuwe	selected(${house}, '1')
Autre, préciser_____		Ingine (Eleza):_____		selected(${own_house}, '6')
Est-ce que quelqu'un dans ce ménage cultive des champs?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Est-ce que quelqu'un dans ce ménage cultive des champs?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	

Les champs appartient à vous ou vous les cultivez par location?	1 Champs appartiennt au ménage 2 Location 3 Quelques appartiennt au ménage, quelques par location 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Les champs appartient à vous ou vous les cultivez par location?	Chamba nizetu Tunalimiyana kipande tunalimiyana kipande tunalimiyana Akataa jibu Ha juwi Akosa jibu	selected(${fields_cultivate}, '1')
Votre ménage est propriétaire de combien de champs?		Chamba ngapi jamaa yako iko nazo?		selected(${fields_own}, '1')
Combien de ces champs appartient à vous personnellement?		Chamba ngapi unazo pekeyako?		selected(${fields_cultivate}, '1')
Votre ménage est propriétaire des arbres fruitiers?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Jamaa yako ina miti ya matunda?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Votre ménage a combien d'arbres fruitiers?		Miti ya matunda ngapi munao?		selected(${fruit_trees}, '1')
Les arbres fruitiers appartiennt-ils à vous personnellement?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Izo miti nizenu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${fruit_trees}, '1')
Votre ménage est propriétaire des champs des bananiers?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas	Jamaa yako ina chamba ya migomba?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi	

	99	Réponse manquante		99	Akosa jibu	
Votre ménage est propriétaire de combien de champs des bananiers?			Chamba ya migomba ngapi munao?			selected(${ bananiers}, '1')
Les champs des bananiers appartiennent-ils à vous personnellement?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Izo chamba ya migomba nizenu?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	selected(${ bananiers}, '1')
Votre ménage est propriétaire de la volaille?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Muna ma kuku ama ma dindon?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	
Votre ménage a combien de têtes de volaille?			Bicwa ngapi munayo?			selected(${ poultry}, '1')
Combien de têtes de volaille appartient à vous personnellement?			Ngapi njo zenu?			selected(${ poultry}, '1')
Votre ménage est propriétaire des chèvres?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Muna ma mbuzi?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	
Votre ménage a combien de chevres?			Mbuzi ngapi munayo?			selected(${ goats}, '1')
Combien de chevres appartient à vous personnellement?			Ngapi njo zako?			selected(${ goats}, '1')
Votre ménage est propriétaire des vaches?	1 0 97 98 99	oui non Refuse de répondre Ne sait pas Réponse manquante	Muna ngombe mu jamaa?	1 0 97 98 99	Ndiyo Hapana Akataa jibu Ha juwi Akosa jibu	
Votre ménage a combien de vaches?			Ngombe ngapi munayo?			selected(${ cattle}, '1')

Combien de vaches appartient à vous personnellement?		Ngapi njo zako?		selected(${ cattle}, '1')
D'où provient principalement l'eau que boivent les membres de votre ménage?	1 Eau du robinet dans votre logement 2 Eau du robinet dans cours/concession 3 Eau du robinet ailleurs 4 Puits ouvert dans cour/concession 5 Puits protégé dans logement 6 Fleuve/rivière 7 Lac 8 Eau de pluie 9 Autre, préciser 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Maji munayo tumiya inatoka wapi?	maji ya robinet munyumba maji ya robinetmu lupango maji ya robinet ingine fasi kisimaya maji kisima yenyikutengezewa maji ya mutoni maji ya lac maji yamvula ingine, utueleze ayo Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____		selected(${ water}, '9')
Combien de temps faut-il pour aller là-bas, prendre de l'eau et revenir?		Dakika ngapi mbele ya kufika kwaku shota mayi?		
De quel genre de toilettes dispose votre ménage?	1 Chasse d'eau 2 Latrine non couverte 3 Latrine couverte	Choo yenu niyanamna gani	Chasse d'eau Latrine non couverte Latrine couverte	

	4 Pas de toilettes/nature 5 Autre, préciser 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Akuna wc ni mu pori ingine, utueleze ayo Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____		selected(${toilet}, '5')
Partagez-vous cette installation avec d'autres ménages?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Muna changiya choo iyo wa ngapi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Dans votre ménage, quel genre de combustible utilisez-vous principalement pour la cuisine?	1 Electricité 2 Gaz bouteille 3 Kérosène/petrole 4 Charbon de bois 5 Bois à brûler 6 Autre, préciser_____ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Nini munayo pigisha chakula?	moto ya umeme/courant Gaz petrole makala makuni ingine, utueleze ayo Akataa jibu Ha juwi Akosa jibu	
Autre, précisez_____		Ingine (Eleza):_____		selected(${fuel}, '6')

Dans votre maison, combien de pièces utilisez-vous pour dormir?		Nyumba yenu ina chumba ngapi?		
Principal matériau du sol.	1 Terre/sable 2 Bois/autres vegetaux 3 Ciment 4 Carrelage 5 Autre matériau moderne 6 Autre, préciser_____	Chini kuna njegwa na nini	Terre/sable Bois/autres vegetaux Ciment Carrelage Autre matériau moderne Autre, préciser_____	
Autre, préciser_____		Ingine (Eleza):_____		selected(${floor}, '6')
Principal matériau du toit.	1 Chaume/paille 2 Natte 3 Palmes/bambou 4 Planches de bois 5 Dalle en béton 6 Tuiles/ardoise/eternit 7 Tôle 8 Autre, préciser	Manjanj ni ya namna gani	Chaume/paille Natte Palmes/bambou Planches de bois Dalle en béton Tuiles/ardoise/eternit Tôle Autre, préciser_____	
Autre, préciser_____		Ingine (Eleza):_____		selected(${roof}, '8')
Normalement votre ménage mange combien de fois par jour?	0 0		0	

	1 2 3 4 97 98 99	1 2 3 4+ Refuse de répondre Ne sait pas Réponse manquante		1 2 3 4+ Akataa jibu Ha juwi Akosa jibu	
En ce qui concerne la nourriture et la cuisine dans votre ménage, diriez-vous que les situations présentées ci-après sont vraies dans votre situation actuelle?			Kuhusu chakula na mapishi katika nyumba yenu, munaweza sema kama hii hali tunaonyesha hapa nikweli katika hali yenu ya sasa ?		
Nous sommes inquiets que la nourriture dans notre ménage va se terminer avant que nous ne trouvions l'argent pour en acheter à nouveau	1 2 3 96 97 98 99	Souvent vraie Parfois vraie Pas vraie Non applicable Refuse de répondre Ne sait pas Réponse manquante	Tunaogopa chakula nyumbani iishe na bado hatuja pata pesa yaku nunua ingine	Mara nyingi, kweli Mara moja, kweli Si kweli Haifanyikake Akataa jibu Ha juwi Akosa jibu	
Nous mangeons la même chose pendant plusieurs jours d'affilée parce que nous n'avons	1 2	Souvent vraie Parfois vraie	Tuna kula chakula hiyo hiyo sikunyingi zakufuatana sababu	Mara nyingi, kweli Mara moja, kweli	

que peu d'aliments différents à la maison et il nous est difficile d'en payer plus	3 96 97 98 99	Pas vraie Non applicable Refuse de répondre Ne sait pas Réponse manquante	hatuna chakula kwa uwingi, nani vigumu ku nunua ingine.	Si kweli Haifanyikake Akataa jibu Ha juwi Akosa jibu	
Nous sommes arrivés à cours d'aliments dont nous avions besoin pour préparer un repas, et nous n'avions pas d'argent pour en acheter à nouveau	1 2 3 96 97 98 99	Souvent vraie Parfois vraie Pas vraie Non applicable Refuse de répondre Ne sait pas Réponse manquante	Tulimaliza chakula ambayo tulitaka na hatuna pesa yaku nunua ingine	Mara nyingi, kweli Mara moja, kweli Si kweli Haifanyikake Akataa jibu Ha juwi Akosa jibu	
SECTION 3. Pouvoir d'achat et prise de décision					
Dans votre famille, qui a généralement le dernier mot dans les décisions suivantes: Vos propres soins de santé?	1 2 3 4 5	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire	Mu jamaa nani ana neno ya mwisho kuhusu afya yako?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tuna gawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye	LIS TOUTES LES REPONSES A HAUTE VOIX.

	6 97 98 99	Autres, specifié Refuse de repondre Ne sait pas Reponse manquante		Anakata ku jibu ajuwi anakosa jibu	
Autre, précisez_____			Ingine (Eleza):_____		selected(${ health_decisions}, '6')
Les achats de choses importantes pour le ménage?	1 2 3 4 5 6 97 98 99	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante	Nani ana neno ya mwisho kuhusu kununuwa bifaa mbali mbali ya nyumba?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	LIS TOUTES LES REPONSES A HAUTE VOIX.
Autre, précisez_____			Ingine (Eleza):_____		selected(${ hhpurchases}, '6')
Les achats pour les besoins quotidiens du ménage?	1 2	Moi-même Mon mari/partenaire	Nani ana neno ya mwisho kuhusu kununuwa bifaa ya kila siku?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu	LIS TOUTES LES REPONSE

	3 4 5 6 97 98 99	Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante		tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	S A HAUTE VOIX.
Autre, précisez_____			Ingine (Eleza):_____		selected(${ daily_purchases}, '6')
Les visites à la famille ou parents?	1 2 3 4 5 6 97 98 99	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante	Nani ana neno ya mwisho kuhusu kutembeleya wazazi ao jamaa?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	LIS TOUTES LES REPONSE S A HAUTE VOIX.

Autre, précisez_____		Ingine (Eleza):_____		selected(${ visits}, '6')
Quelle nourriture sera préparée chaque jour?	1 Moi-même 2 Mon mari/partenaire 3 Mon mari/partenaire et moi ensemble 4 Mes parents/ma grande famille 5 Les parents/la grande famille de mon mari/ partenaire 6 Autres, specifié_____ 97 Refuse de repondre 98 Ne sait pas 99 Reponse manquante	Nani ana neno ya mwisho kuhusu chakula gani itapigiwa siku kwa siku?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	
Autre, précisez_____		Ingine (Eleza):_____		selected(${ prepare_food}, '6')
Si vous accouchez à la maternité ou à la maison?	1 Moi-même 2 Mon mari/partenaire 3 Mon mari/partenaire et moi ensemble 4 Mes parents/ma grande famille 5 Les parents/la grande famille de mon mari/ partenaire 6 Autres, specifié	Ukizaa ku nyumba ao ku kituo kya afya	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye	

	97 98 99	Refuse de repondre Ne sait pas Reponse manquante		Anakata ku jibu ajuwi anakosa jibu	
Autre, précisez_____			Ingine (Eleza):_____		selected(${deliver_hosp}, '6')
Si vous allez à une consultation post-natale après un accouchement?	1 2 3 4 5 6 97 98 99	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante	Ukienda ku Kipimo kisha kuzaa(posho 6 kisha kuzaa)	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	
Autre, précisez_____			Ingine (Eleza):_____		selected(${attend_PNC}, '6')
Si vous ou votre partenaire utilisent la plannification familiale pour éspacer où éviter une grossesse?	1 2 3	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble	Weye ao mcumba wako mwa tumiya mpango ya uzazi kwa ku panga uzazi ao kwaku epuka ku beba mimba?	miye mwenyewe mume ao mcumba wangu miye na bwana wangu tunagawanya	

	4 5 6 97 98 99	Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante		bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	
Autre, précisez_____			Ingine (Eleza):_____		selected(${ use_FP}, '6')
Si vous devez aller au centre de santé ou à l'hôpital, vous pouvez compter sur qui pour vous aider à payer les tarifs?	1 2 3 4 5 6 97 98 99	Moi-même Mon mari/partenaire Mon mari/partenaire et moi ensemble Mes parents/ma grande famille Les parents/la grande famille de mon mari/ partenaire Autres, specifié Refuse de repondre Ne sait pas Reponse manquante	Kama unapashwa enda kwa munganga, nani ana kusaidiya kunipa facture (matunza)?	miye mwenyewe mume ao mcumba wangu miye na bwana wangut unagawanya bazazi na ba ndugu bangu ba mukwe yangu na ba ndugu ba bwana yangu bengine batu, ubataye Anakata ku jibu ajuwi anakosa jibu	NE LIS PAS LES REPONSES; REPONSES MULTIPLES SONT POSSIBLES

Autre, précisez_____		Ingine (Eleza):_____		selected(${ hc_costs}, '10')
SECTION 4. Fertilité et utilisation des services de santé maternelle				
Maitenant je voudrais poser quelques questions sur vos grossesses et votre utilisation des services de santé.		Sasa ulizo zenyi kuelekeya mimba na gisi muna tumiya bituo bya afya		
Êtes-vous enceinte actuellement ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Uko (ao muke wako) iko na mimba sikuhizi?		N'ACCEPTEZ PAS LA REPONSE 'NE SAIT PAS'
Combien de mois etes-vous enceinte?		Mimba yako ina myezi ngapi		REPONSES EN MOIS
Avez-vous le carnet de contrôle pour cette grossesse?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Uko na kitabu ya kipimo ku iyi mimba?		CONFIRMES REPONSE AVEC CARNET SI ELLE L'A.
Quand vous êtes tombée enceinte de l'enfant actuel ou de votre dernier enfant, cette grossesse était-elle planifiée à l'époque ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Wakati wewe ao mpenzi wako ali pata mimba ya mtoto wa sasa ao wa mwisho, hiyi mimba ilikuwa imepangwa mbele?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ pregnant}, '1')

Vous avez eu combien de grossesses au cours de votre vie?		Umesha beba mimba marangapi?		
Vous avez eu combien de fausses couches (avortement spontané) au cours de votre vie (n'incluant pas les avortements provoqués) ?		Mimba ngapi zili aribika kwakipekewe(bila kuesabu zenye ulitosha kwa kutaka) tangu uko mwanamke		LES FAUSSES COUCHES N'INCLUENT PAS LES AVORTEMENTS PROVOQUES
Parfois, les femmes peuvent avoir des raisons ultimes pour vouloir terminer une grossesse, même si c'est contre la loi et contre les croyances des autres. Nous aimerions parler avec vous de l'avortement dans la communauté.		kuna wakati, mama mjamzito acukuwa hatuwa ya kuondowa mimba hakuitaji, hata kama sheriya ya ikataza ao mila ya watu wengi hivyo		LIRE A HAUTE VOIX
Est-ce qu'une de vos sœurs, née de la même mère, a déjà eu un avortement provoqué?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	kuna dada(mwenyi mume toka tumbu moya) yenu amesha ondowa mimba?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Combien de vos sœurs ont déjà eu un avortement provoqué?		wa dada yako ngapi wamesha towa mimba kwa namna ya kipekee?		
Avez-vous déjà eu un avortement provoqué (n'incluant pas les fausses couches/ avortement spontané)?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umekwisha towa mimba kwakutakayako?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	N'INCLUANT PAS LES FAUSSES COUCHES

Combien d'avortements provoqués avez-vous eu?		Mimba ngapi ulishatosha?		selected(${ sister_abortion}, '1')
Est-ce que vous avez déjà accouché à votre domicile ou à un autre lieu non-medicalisé dans la communauté?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umekwisha kujifungula nyumbani ao pa fasi ingine siyo hospitali ao kituo kya afya?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Combien de fois avez-vous accouché à votre domicile ou à un autre lieu non-medicalisé dans la communauté?		Maraa ngapi umezaa maali ingine siyo ku hospitali ao ku kituo kya afya?		selected(${ home_birth }, '1')
Pourquoi avez-vous décidé d'accoucher à votre domicile ou à un autre lieu non-médicalisé dans la communauté ?	1 Je n'ai pas eu argent pour payer les tarifs au centre de santé/ hôpital 2 Centre de santé/l'hôpital est trop loin de mon domicile 3 Je suis plus confortable chez moi 4 J'ai peur des interventions au centre de santé/ l'hôpital 5 Le bébé est venu trop vite pour aller au centre de santé 6 J'ai déjà accouché chez moi/dans la communauté sans complication 7 Je préfère les accoucheuses traditionnelles	Sababu gani umezaa nyumbani ao maali ingine siyo kituo kya afya?	kukosewa na pesa kituo kya afya kilikuwa iko mbali saana na kwangu Naji sikiya vema zaidi nyumbani mwangu Naogopa kupasuliwa Mtoto amekuya mbiyo zaidi Nimesha jifungula vema nyumbani ao ku mungini bila tatizo Na furahiya wale wa mama wanayo zaalisha ku mungini nimekosa pesa ya ku nunuwa vazi zipya na zakufaa karamu nimekosa mutuwa ku garamiya bwana na batoto bangu ni Mungu ana panga ingine Akataa jibu Ha juwi Akosa jibu	selected(${ home_birth }, '1') REPONSES MULTIPLES SONT POSSIBLES.

	8 Je n'ai pas eu l'argent pour les nouveaux vetement et/ou une fete après l'accouchement 9 Personne à la maison pour s'occuper de mon mari/les enfants si je vais à la maternité 10 C'est à Dieu de décider 11 Autre raison 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante			
Autre, préciser_____		Ingine (Eleza):_____		selected(${ why_home _birth}, '11')
Où avez-vous accouché votre dernier(e) né(e)?	1 A notre domicile 2 Chez un(e) voisin(e) 3 Hôpital / centre de santé public 4 Hôpital / centre de santé privé 5 Chez accoucheuse traditionnelle guérisseur traditionnel 6 Autre (préciser)___ 97 Refuse de répondre 98 Ne sait pas 99 Reponse manquante	Wapi amezaa mtoto wa mwisho?	Ku nyumba kwa jirani moja ku hospitali ya serkali ku hospitali kwa mwanamke mwenyi kuzalisha ku nyumba kwingine wapi akata ku jibu Ajuwi jibu nakosa jibu	
Autre, précisez_____		Ingine (Eleza) :_____		
Pourquoi avez-vous accouché votre dernier(e) né(e) à votre domicile ou à un autre lieu non-	1 Je n'ai pas eu argent pour payer les tarifs au centre de santé/hôpital	Sababu gani umezaa nyumbani ao maali ingine siyo kituo kya afya?	kukosewa na pesa kituo kya afya kilikuwa iko mbali saana na kwangu	REPONSES MULTIPLES SONT

médicalisé dans la communauté ?	2 Centre de santé/l'hôpital est trop loin de mon domicile 3 Je suis plus confortable chez moi 4 J'ai peur des interventions/operations au centre de santé/ l'hôpital 5 Le bébé est venu trop vite pour aller au centre de santé 6 J'ai déjà accouché chez moi/dans la communauté sans complication 7 Je préfère les accoucheuses traditionnelles 8 Je n'ai pas eu l'argent pour les nouveaux vetements et/ou une fete après l'accouchement 9 Personne à la maison pour s'occuper de mon mari/les enfants si je vais à la maternité 10 C'est à Dieu de décider 11 Autre raison 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Naji sikiya vema zaidi nyumbani mwangu Naogopaka ku pasuliwa ao operation ku kituo kya afya Mtoto amefika mbiyo mbiyo nikakosa wakati ya ku fika ku centre Nimesha jifungula vema nyumbani ao ku mungini bila tatizo Na furahiya wale wa mama wanayo zaalisha ku mungini Sikupata pesa ya kuuza mavazi mapya ao pesa za karamu Nimekosa mutu wa kugaramiya bwana na watoto wangu wakati niko ku maternite Mungu njo mwenyi kutaka ingine Akataa jibu Ha juwi Akosa jibu	POSSIBLES. selected(${child1_birthplace}, '1') or selected(${child1_birthplace}, '2') or selected(${child1_birthplace}, '5')

Autre, précisez_____		Ingine (Eleza) :_____		selected(${why_child1_home}, '11')
Pendant votre dernière grossesse, est-ce que vous avez reçu soins prénatales (CPNs) ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Katika mimba yako ya mwisho umeenda ku kipimo ju ya uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	LA GROSSESSE PENDANT LA PERIODE CIBLE
Dans quel mois pendant votre dernière grossesse avez-vous reçu votre première CPN?	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9	Umeanza kipimo ku myezi ngapi ya mimba?	1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9	LA GROSSESSE PENDANT LA PERIODE CIBLE. REPONSE en MOIS. selected(${ANC_last_preg}, '1')
Combien de CPNs avez-vous reçues ?	1 1 2 2 3 3 4 4	Bipimo ngapi umefanya?	1 1 2 2 3 3 4 4	LA GROSSESSE PENDANT LA PERIODE CIBLE.

	5 5+ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		5+ 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ ANC_last_ preg}, '1')
Avez-vous le carnet de contrôle?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	uko na kitabu kya kipimo	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	CONFIRMES LES DEUX DERNIERES REPONSES AVEC CARNET SI ELLE L'A. selected(${ ANC_last_ preg}, '1')
Normalement vous avez pris combien de temps en total pour aller à une CPN (aller, temps au centre, et retours à la maison)?	1 Moins de 30 minutes 2 30 - 60 minutes 3 1 - 1 2 heures 4 2 - 3 heures 5 3+ heures 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ina kutwaa saa ngapi kwenda na ku rudi nyumbani saa unaenda ku kipomo(ku changa na wakati una ngoya)?	1 Moins de 30 minutes 2 30 - 60 minutes 3 1 - 2 heures 4 2 - 3 heures 5 3+ heures 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ ANC_last_ preg}, '1')

Quelles sont les raisons pour lesquelles vous n'avez pas reçu les soins prénataux pendant votre dernière grossesse?	1 Je n'ai pas eu assez d'argent/CPNs sont trop chers 3 Je ne savais pas que j'étais enceinte 4 Ça prend beaucoup de temps/ j'ai trop de travail à la maison ou aux champs 5 Le centre de santé est trop loin 6 Je n'ai pas pensé que c'était nécessaire d'aller aux CPNs 7 Je n'ai pas eu des problémes pendant ma dernière grossesse 8 Je n'ai pas su que ca existe dans notre communauté 9 Mon mari ne m'a pas permis d'y aller 10 Autre 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Sababu gani auku weza fanya kipimo ya mimba?	1 Nimekosa makuta ku anza kipimo 3 Sikujuwa kama nimesha beba mimba 4 Inakamata wakati mingi niko na kazi mingi nyumbani na chambani 5 Kituo kya afya iko mbali saana 6 Sikuona kama kipimo iko na maana 7 Sikupata tatizo mu mimba yangu ya mwisho 8 Sikujuwa kama bipimo zina fanyiwa katika kijiji yetu 9 Mume wangu akuni ruusu kuenda ku kipimo 10 Ingine 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	LAISSES LA FEMME OFFRE LES REPONSES. APRES UNE REPONSE TU PEUX DEMANDER SI ELLE A DES AUTRES RAISONS. REPONSES MULTIPLES SONT POSSIBLE. selected(${ANC_last_preg}, '0')
Autre, précisez_____		Ingine (Eleza) :_____		selected(${why_no_ANC}, '10')

Quand vous êtes allée au CPNs pendant votre dernière grossesse, est-ce que le/la prestataire vous a donnée un bracelet?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Wakati umeenda ku kipimo maara ya mwisho munganga amekupa kikomo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	SEULEMENT POUR LES FEMMES AMITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSESSE selected(${health_zone}, '2') and selected(${ANC_last_preg}, '1')
Combien de bracelets avez-vous réçu pendant votre dernière grossesse?		Bikomo ngapi umepata katika yamimba yako ya mwisho?		SEULEMENT POUR LES FEMMES AMITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSESSE selected(${health_zone}, '2') and

				selected(${ ANC_last_ preg}, '1') and selected(${r eceived_br acelets}, '1')
Avez-vous porté ces bracelets à la maison et/ou dans la communauté?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Bikomo ibyo ulibivaa nyumbani ao ku mungini?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	SEULEME NT POUR LES FEMMES A MITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSES SE selected(${ health_zon e}, '2') and selected(${ ANC_last_ preg}, '1') and selected(${r eceived_br acelets}, '1')
Est-ce que vos amies ont porté ces bracelets dans la communauté?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Marafiki wako wamevaa bikomo ivyo ku mungini?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	SEULEME NT POUR LES FEMMES A

				MITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSESSE selected(${health_zone}, '2') and selected(${ANC_last_preg}, '1') and selected(${received_bracelets}, '1')
Avez-vous su que vous pouviez recu un bracelet aux CPNs avant que vous êtes allée aux CPNs?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mume kuwa najuwa kama muta pata bikomo kama munaenda ku kipimo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	SEULEMENT POUR LES FEMMES A MITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSESSE selected(${health_zone}, '2') and selected(${

				ANC_last_preg}, '1') and selected(${received_bracelets}, '1')
Avez-vous décidé d'aller aux CPNs parce que vous avez voulu un bracelet?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ulienda ku kipimo juu ulipenda ku pata kikomo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	SEULEMENT POUR LES FEMMES AMITI QUI SONT ALLEES AUX CPNS PENDANT DERNIERE GROSSESSE selected(${health_zone}, '2') and selected(${ANC_last_preg}, '1') and selected(${received_bracelets}, '1')
Aimez-vous le style et coleurs des bracelets?	1 Oui, beaucoup 2 Oui, plutôt 3 Neutre	Kikomo iyo uliipenda, rangi yayo ao gisi ime jengwa?	Ndiyo saana Ndiyo kidogo ainiambiye kitu	UTILISE LA CARTE DE VISAGES. LIS LES REPONSES.

	4 Non, pas vraiment 5 Non, pas du tout 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Apana Apana ata kidogo Akataa jibu Ha juwi Akosa jibu	selected(${health_zone}, '2') and selected(${ANC_last_preg}, '1') and selected(${received_bracelets}, '1')
Pendant votre dernière grossesse, est-ce que vous avez eu des complications serieuses?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Katika mimba yako ya mwisho umepata matatizo za ngufu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	GROSSESSE PENDANT LA PERIODE CIBLE. PAS DE CESARIENNE ICI.
Vous avez eu quelles complications pendant votre dernière grossesse?	1 Hemmoragies 2 Anemie 3 Pre-eclampsie / hypertension 4 Infections 5 Dechirures 6 Rupture uterine 7 Autre_____ 97 Refuse de répondre 98 Ne sait pas	Matatizo gani ume pata katika mimba ya mwisho?	Ku toka damu mingi Kupungukiwa damu Tension ya mu mimba Maambukizi Kupasulwa bikali Kupoteza kizazi Ingine :___ Akataa jibu Ha juwi	selected(${preg_comps}, '1')

	99 Réponse manquante		Akosa jibu	
Autre, précisez_____		Ingine (Eleza):_____ _		selected(${type_preg_comps}, '7')
Etiez-vous référée par une poste ou centre de santé à l'hôpital à cause de ces complications?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umetokeya ku centre ku fatana na matatizo ya mimba?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${preg_comps}, '1')
Etes-vous restée à l'hôpital pour une nuit ou plus à cause de ces complications?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umekaa siku mingi kuliko kawaida sababu ya tatizo izo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${refer_preg_comps}, '1')
Avant votre dernier accouchement, êtes-vous restée à la maternité d'attente (bignolas) pendant quelques temps ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mbele yakuzaa umeikala ku bignola mudaa ya myezi ao siku ngapi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Combien de semaines êtes-vous restée à la maternité d'attente avant votre dernier accouchement?		umekaa ku bignolas posho ngapi mbele ya kuzaa?		REPONSE EN SEMAINES selected(${MWH_last_preg}, '1')

Au cours de/après votre dernier accouchement avez-vous eu les complications sérieuses, incluant une césarienne (par exemple hémorrhagie ou fiévre et infection)?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Katika/kisha ku zaa yako ya mwisho umepata matatizo za nguvu?(kisha ou pasulwa damu ku potezwa mingi, homa ama bungojwa ingine)	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Vous avez eu quelles complications?	1 Hemmoragies 2 Anemie 3 Pre-eclampsie / hypertension 4 Infections 5 Dechirures 6 Rupture uterine 7 Accouchement par césarienne 8 Autre 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Matatizo gani umepata?	Ku toka damu mingi Kupungukiwa Tension ya mu mimba Maambukizi Kupasulwa bikali Kupoteza kizazi Accouchement par césarienne Ingine Akataa jibu Ha juwi Akosa jibu	selected(${deliver_comps}, '1')
Autre, précisez_____		Ingine (Eleza):_____		selected(${type_deliver_comps}, '8')
Etiez-vous référée par un centre de santé à l'hôpital à cause de ces complications?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas	Umetokeya ku centre ku fatana na matatizo ya mimba?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi	selected(${deliver_comps}, '1')

	99 Réponse manquante		99 Akosa jibu	
Etes-vous passée une nuit ou plus à l'hôpital à cause de ces complications?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umebakii siku mingi zaidi sababu ya matatizo ulipata katika ao kisha mimba?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${refer_deliver_comps}, '1')
Après votre dernier accouchement, avez-vous reçu des soins post-nataux (CPONs) au cours des 7 jours après l'accouchement?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umepata matunzo mbali mbali mpaka masiku saba kisha kuzaa?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Quelles sont les raisons pour lesquelles vous n'avez pas recu un soin post-natal (CPON) en cours des 7 jours après votre dernier l'accouchement?	1 Je n'ai pas eu assez d'argent/ c'était trop cher 2 Ça prend beaucoup de temps/ j'ai trop de travail à la maison ou aux champs 3 Le centre de santé est trop loin 4 Je n'ai pas pensé que c'était nécessaire d'aller aux CPONs 5 Je n'ai pas eu des problémes après l'accouchement 6 Je n'ai pas su que ca existe dans notre	Sababu gani aukupata matunzo kisha kuzaa?	Sikupata pesa ilikuwa beyi mingi Inatwala wakati minginiko na kazi mingi nyumbani na chambani Kituo kya afya ao centreiko mbali na ku nyumba Sikuwaza kama niyalazima kwenda ku kipomo Sikupata matatizo kisha ku zaa Sikujuwa kama inafanyiwa mu kijiji mwetu Bwana yangu akuniruusu kwenda ako Ingine_____ Akataa jibu Ha juwi Akosa jibu	LAISSES LA FEMME OFFRE LES REPONSES. APRES UNE REPONSE TU PEUX DEMANDER SI ELLE A DES AUTRES RAISONS. REPONSES MULTIPLE

	communauté 7 Mon mari ne m'a pas permis d'y aller 8 Autre 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante			S SONT POSSIBLE. selected(${ PNC_last_ birth}, '0')
Autre, préciser_____		Ingine (Eleza):_____		selected(${ PNC_no}, '8')
Est-ce que votre dernier enfant a eu des complications pendant l'accouchement et/ou pendant les DIX PREMIERS JOURS APRES l'accouchement (par exemple l'asphyxie)?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mtoto umezaa alipata shida mukuzaliwa ao kisha ku zaliwa?(kushindwa pumuwa kwa mfano)	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	ENFANT QUI EST NE 2013
Quelles types de complications a-t-il/elle a eu?	1 Asphyxie 2 Infections 3 Déces 4 Traumatismes 5 Detresse respiratoire 6 Malformations 7 Tetanus 8 Autre 97 Refuse de répondre 98 Ne sait pas	Matatizo gani alipata?	Ku kosa pumuwa ao ukosefu ya hewa Ku gonjwa Kifo Kiwewe Ku pumuwa mubaya Ulema Tetanus ingine Akataa jibu Ha juwi	selected(${ child_comps}, '1')

	99 Réponse manquante		Akosa jibu	
Autre, précisez_____		Ingine (Eleza):_____		selected(${type_child_comps}, '8')
Votre enfant, était-il référée par une poste ou centre de santé à l'hôpital à cause de ces complications pendant les 10 premiers jours de sa vie?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mtoto umezaa ametumwa ku hospitali sababu ya shida mukuzaliwa ao kisha ku zaliwa ama mbele ya siku kumi akisha zaliwa	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${child_comps}, '1')
A-t-il/elle est passé(e) une nuit ou plus à l'hôpital à cause de ces complications?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	mume kawa toka maternité sababu ya shida mtoto aliye pata	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${refer_child_comps}, '1')
Est-ce votre dernier enfant a eu une/plusieurs maladies SERIEUSES après les premiers dix jours de sa vie?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	moto wako amegonjwa saana kisha siku 10 alipozaliwa?		ENFANT QUI EST NE 2013
Quelles types de maladies a-t-il/elle a eu?		Bugonjwa gani aligonjwa		selected(${child_illness}, '1')

Autre, précisez_____		Ingine (Eleza):_____		selected(${type_child_illness}, '8')
Votre enfant, était-il référée par une poste ou centre de santé à l'hôpital à cause de cette/ces maladies?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	mtoto wako alitumwa ku hospitali na centre ao poste sababu ya bugonjwa iyo	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${child_illness}, '1')
A-t-il/elle est passé(e) une nuit ou plus à l'hôpital à cause de cette/ces maladies?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mtoto uyo amepanga siku moya ao mingi ku hospitali sababu ya ungojwa uho	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${refer_child_illness}, '1')
Maintenant je voudrais poser quelques questions sur l'accés aux centres médicalisé dans votre communauté.				
Si vous devez aller au centre de santé ou à l'hôpital pour une raison qui n'est pas urgente (par exemple pour les CPNs), normalement vous y allez comment?	1 Je marche 2 Moto 3 Voiture 4 Pirogue 5 Autre, préciser 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Wakati unaenda ku kituo ya afya kwa kawadi munaenda namna gani?	na tembeya Moto gari mtumbi Ingine :___ Akataa jibu Ha juwi Akosa jibu	LIRE LES REPONSES POSSIBLES.
Autre, précisez_____		Ingine (Eleza):_____		selected(${travel_hc}, '5')

Combien de temps faut-il pour aller de chez vous au centre de santé fonctionnel le plus proche ?		Saa ngapi ya faa ku toka kwako mbaka ku kituo kya afya yenyi kutumika na yenyi kuwa karibu na kwako?		REPONSE EN MINUTES.
De quelle institution sanitaire s'agit-il?		Ni kituo kya afya gani, hospitali, centre ao poste		
Autre, précisez_____		Ingine (Eleza):_____		selected(${type_hc}, '7')
Si on doit compter en termes d'argent,combien d'argent faut-il pour aller au centre médicalisé le plus proche qui fournit les CPNs?		Makuta ngapi mtu anapashwa tumiya kwenda ku kituo kwenyi atapata kipimo ya mimba?		REPONSE EN DOLLARS
Pour votre dérnier accouchement, il a fallu combien d'argent pour allez au lieu de la naissance vous-même?		Pesa ngapi uliweza tumiya ku fika mahali uliyozaa mara ya mwisho?		REPONSE EN DOLLARS selected(${child1_birthplace}, '3') or selected(${child1_birthplace}, '4') or selected(${child1_birthplace}, '5')
Il a fallu combien d'argent pour les autres qui vous ont accompagné d'aller au lieu de la naissance?		Benyi kusindikiza wametumiya makuta ngapi kuku fikisha mahali uliyo zaa?		REPONSE EN DOLLARS selected(${child1_birth

				place}, '3') or selected(${ child1_birth place}, '4') or selected(${ child1_birth place}, '5')
Pour votre dérnier accouchement, vous avez dépensé combien d'argent (y compris frais des services de santé/frais de l'hôpital, nourriture si vous l'avez achetée à l'hôpital, frais de logement pour les personnes qui vous ont accompagné, etc)?		Maraa ya mwisho umezaa pesa ngapi mulitumiya ku baki mahali apo(chakula, mayi, makao,..)?		REPONSE EN DOLLARS selected(${ child1_birth place}, '3') or selected(${ child1_birth place}, '4') or selected(${ child1_birth place}, '5')
Au cours de l'année, est-ce qu'il y a des saisons ou le centre de santé/hôpital le plus proche n'est pas accessible à cause du temps ou autre raisons?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	katika mwaka kuna wakati kituo kya afya yenyi kuwa karibu iko nguvu ku fikaako sababu ya wakati ao ingine sababu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
SECTION 5: Accès au, utilisation de et demande pour la planification familiale				

A présent, je souhaiterais vous parler d'un façon un peu plus détaillée de la planification familiale – les façons ou méthodes différentes que l'on peut utiliser pour retarder, espacer ou éviter les grossesses. Vos réponses à ces questions seront traitées de façon confidentielle et ne seront communiquées à personne y compris votre mari/partenaire et les préstataires. Nous nous intéressons à ces questions pour pouvoir mieux comprendre les circonstances qui entourent la santé reproductive des femmes.		Sasa tunapenda tu zungumuziye zaidi kuusu mpango wa uzazi- bifaa mbali mbali mbali mtu ateneya tumiya ku epuka mimba ao ku panga. Jibu mutatupatiya zita weka vizuri na azita oneshwa kwa mtu yoyote awe munganga awe mume wako.		LIRE A HAUTE VOIX
A présent, est-ce que VOUS voudriez attendre ou arrêter d'avoir plus d'enfants?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kwa sasa umechaguwa ku panga uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
A présent, est-ce que VOTRE MARI/PARTENAIRE voudrait attendre ou arrêter d'avoir plus d'enfants ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kwa sasa weye na bwana ao mcumba wako mumechaguwa ku panga uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Vous voulez combien d'enfant en plus?		Watoto wangapi muna penda tena?		

Votre partenaire, il veut plus, moins ou le même nombre d'enfants que vous?	1 Il veut plus d'enfants que moi. 2 Il veut moins d'enfants que moi. 3 Nous voulons le même nombre d'enfants. 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Bwana yako anapenda watoto wengi, kidogo ao sawa sawa na weye?	Anapendawatoto wengi kunizidiya Anapenda watoto kidogo tuna penda watoto sawa sawa Akataa jibu Ha juwi Akosa jibu	
Vous préferez d'avoir combien d'années entre vos naissances?		Kisha myaka ngapi njo munapenda fwatisha?		REPONSE EN ANNEES.
Qui, à votre avis, doit décider de l'usage de méthodes de planning familial ?	1 La femme 2 L'homme 3 Le couple doit décider ensemble 4 La grande famille (mére de la femme, belle mére de la femme, etc) 5 Le couple doit décider avec la grande famille 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Nani kati ya wapendanao, kwa taarifa yenyu ana weza kuamua ju ya njia ya mpango wa uzazi ?	Mwanamke Mwanaume Wanandoa wana pashwa amua jamaa yote mkubwa bibi na bwana banasikilizana na jamaa Akataa jibu Ha juwi Akosa jibu	LIRE LES REPONSES A HAUTE VOIX. UNE REPONSE EST POSSIBLE.
Est-ce que l'information et/ou les conseils sur la planification familiale est disponible dans votre communauté ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mashauri ao habari kuusu ku panga uzazi inawafikiya mu shirika ao mu munginii yenu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Avez-vous reçu Informations et conseils sur le planning familial dans les 12 derniers mois?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas	Umepata shauri oa habari izo mu izi myezi kumi na mbili zilizo pita?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi	

	99 Réponse manquante		99 Akosa jibu	
Où êtes-vous allée pour obtenir ce service?	1 Hôpital 2 Centre de santé 3 Centre de santé confessionnel 4 Centre pour jeunes 5 Poste secondaire 6 Pharmacie / kiosque 7 Ecole (seulement si les conseils / informations ont été fournis dans les 12 mois) 8 Organisation de jeunes 9 Communauté (p. ex. Agents de santé communautaire, Relais communautaires) 10 Mes ami(e) s 11 autres___ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Je, uliendeya wapi ili upate msada kwa kazi hii?	Ku Hospitali Ku Kituo cya afia. Ku Kituo cya afia ya zehebu /ya Kanisa. Ku Kituo cya vijana. Ku Dispenseri Ku Farumasi Shuleni kama shauri na mafasiriyo ili fanyika mu myezi 12 imepita Kituo ao Kikundi cya vijana. Kwa wakaji sawa vile Waganga vijijini ao wa Rele. Rafiki/ marafiki Ingine Akataa jibu Ha juwi Akosa jibu	LIRE LES REPONSES A HAUTE VOIX, MULTIPLE REPONSES POSSIBLE

Autre, préciser_____		Ingine (Eleza):_____		
Votre partenaire, sait-t-il que vous êtes reçue/allée pour une consultation PF ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mcumba wako anajuwa kama umeenda kuuliza kuusu upango wa uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	LIRE LES REPONSES A HAUTE VOIX. selected(${fp_info_12m}, '1')
Pouvez-vous citer des méthodes que les femmes ou les hommes peuvent utiliser pour éviter une grossesse ?	Non, je ne peux pas citer une méthode contraceptive 1 Stérilisation féminine (ligature des trompes) 2 Stérilisation masculine (vasectomie) 3 DIU, dispositif intra-utérin en cuivre 4 5 Injection 6 Implants 7 Pilule 8 Préservatif masculin 9 Préservatif féminin 10 Diaphragme Méthode de l'allaitement maternel et de l'aménorrhée (protégée	Una weza kutaja njia ambayo wanawake ao wanaume wanaweza ku tumiya juu ya kuepuka mimba ?	Apana siwezi Ugumba wa kya na mke Ugumba wa kiume Kifaa ndani ya mufuko wa uzazi Ku comwa shindano Ya muda mwingi ya kutekeleza/ Implanoni. Kidonge ya kuzuwiya mimba Kondomu ya kiume Kondomu ya kike Kifungo ya kiunoni /diaphragm. Kupitiya kunyonyesha na ya amenorrhea (hukingwa wakati wa utoaji wa damu na maziwa). Kupitiya njia ya kisai/kujikatalia mara kwa mara kitendo cya ndoa. Uondoaji/kukatiza ku fanya. Kidonge cya haraka cya kingo la	NE PAS LIRE. NOTEZ LES REPONSES SPONTANEES.

		pendant l'allaitement)		mimba	
	12	Méthode des rythmes/ abstinence périodique		Kujikataliya kwa lote kitendo cya ndoa.	
	13	Retrait (coït interrompus)		Taja namna ingine unajuwa	
	14	Contraception d'urgence		Akataa jibu	
	15	Abstinence totale		Ha juwi	
	16	Autre méthode		Akosa jibu	
	97	Refuse de répondre			
	98	Ne sait pas			
	99	Réponse manquante			
Autre, préciser_____			Ingine (Eleza):_____ _____		selected(${fp_info_place}, '11')
Comment et où avez-vous entendu parler de ces méthodes ?	1	Hôpital	Vipi na wapi muliwai kusikia wakisema juu ya njia hizi ?	Ku Hospitali	LIRE A HAUTE VOIX. REPONSES MULTIPLES POSSIBLE. not(selected(${fpmethods_sp}, '1'))
	2	Centre de santé		Ku Kituo cya afia.	
	3	Centre de santé confessionnel		Ku Kituo cya afia ya zehebu /ya Kanisa.	
	4	Centre pour jeunes		Ku Kituo cya vijana.	
	5	Poste secondaire		Ku Dispenseri	
	6	Pharmacie / kiosque		Ku Farumasi	
	7	Ecole (seulement si les conseils / informations ont été fournis dans les 12 mois)		Shuleni kama shauri na mafasiriyo ili fanyika mu myezi 12 imepita	
				Kituo ao Kikundi cya vijana.	
				Kwa wakaji sawa vile Waganga vijijini ao wa Rele.	
	8	Organisation de jeunes			

	9 Communauté (p. ex. Agents de santé communautaire, Relais communautaires) 10 Mes ami(e) s 11 autres___ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Rafiki/ marafiki Ingine Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____		selected(${fpmethods_sp}, '16')
Vous / votre partenaire avez-vous jamais utilisé une méthode contraceptive pour retarder ou éviter une grossesse, incluant les préservatifs masculin t/ou feminin ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Wewe/mpenzi wako mume wai tumia njia yani mupangilio wa uzazi ju ya kuchelewesha ama kuepuka mimba ? Iwe condom ao ingine	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Quelle(s) méthode(s) avez-vous utilisé, incluant les préservatifs masculins et/ou féminins?	1 Stérilisation féminine (ligature des trompes) 2 Stérilisation masculine (vasectomie) 3 DIU, dispositif intra-utérin en cuivre 4 Injection	Upango gani mumetumiya?	Ugumba wa kya na mke Ugumba wa kiume Kifaa ndani ya mufuko wa uzazi Ku comwa shindano Ya muda mwingi ya kutekeleza / Implanoni. Kidonge ya kuzuwiya mimba	

	5 6 7 8 9 10 11 12 13 14 15 97 98 99	Implants Pilule Préservatif masculin Préservatif féminin Diaphragme Méthode de l'allaitement maternel et de l'aménorrhée (protégée pendant l'allaitement) Méthode des rythmes/ abstinence périodique Retrait (coït interrompus) Contraception d'urgence Abstinence totale Autre méthode Refuse de répondre Ne sait pas Réponse manquante		Kondomu ya kiume Kondomu ya kike Kifungo ya kiunoni /diaphragm. Kupitiya kunyonyesha na ya amenorrhea (hukingwa wakati wa utoaji wa damu na maziwa). Kupitiya njia ya kisai/kujikatalia mara kwa mara kitendo cya ndoa. Uondoaji/kukatiza ku fanya. Kidonge cya haraka cya kingo la mimba Kujikataliya kwa lote kitendo cya ndoa. Taja namna ingine unajuwa:____ Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____ _____		selected(${fplearn_place}, '11')	

Pour quelles raisons n'utilisez-vous aucune méthode de contraception?	1	Cela va à l'encontre de mes croyances religieuses	Kama sivyo, kwa nini hautumiye hata mpango moja ya kingo la mimba/uzazi?	Ina pingwa na sheria za dini langu Mume wangu ao mpenzi wa ndoa, haimufurahishe. Vinyume vyake vyani ogopesha. Na amuwa kuwa na watoto wengi. Si furahishwe na mpango ya kingo la uzazi. Hiyo ya nizuru wakati ya kitendo cya ndoa. Sikufikiya ku omba ruhusa Mume wangu ao mpenzi wa ndoa kutumiya dawa yoyote ya kingo kwa mpango ya uzazi. Hiyo ya punguza ama ya vunja utamu ya kitendo cya ndoa. Si kukuwa na fahamu wala ku juwa uwepo wa dawa yoyote ya kingo ya uzazi. Kwa wakati huu, hakuna dawa yoyote ya kingo ya uzazi tayari. Sijuwi wapi naweza pata ao ku uziya dawa yoyote ya kingo ya uzazi. Napanga uzazi bila kutumiya dawa	REPONSES MUTLIPLES POSSIBLES. NE PAS LIRE LES REPONSES, MAIS DEMANDER : D'AUTRES RAISONS ENCORE ? JUSQU'A CE QU'IL N'Y AIT PLUS DE REPONSES SUPPLEMENTAIRES DONNEES. selected(${fp_ever}, '1')
	2	Mon conjoint / partenaire désapprouve			
	3	Les effets secondaires m'inquiètent			
	4	Je veux davantage d'enfants			
	5	Je ne suis pas d'accord avec la contraception			
	6	Cela me gêne pendant les rapports sexuels			
	7	Je n'ai pas réussi à demander / négocier l'usage d'un contraceptif avec mon partenaire			
	8	Cela réduit la satisfaction / le désir sexuel			
	9	Je n'étais pas au courant de l'existence des contraceptifs			
	10	Aucune méthode			

	disponible à ce moment-là 11 Je ne savais pas où me procurer des contraceptifs 12 Je n'ai pas besoin parce que j'ai 'le planning naturel' 13 Autre (préciser) : ___ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		ya kizungu Kama kuna ingine, eleza : Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____ _____		selected(${fp_ever_methods}, '15')
Avez-vous l'intention d'utiliser une méthode de planning familial dans le futur ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Je, unatamani ku timiza mpango hata moja ya uzazi bora mu siku zijazo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${fp_ever}, '0')
A présent est-ce que vous/votre partenaire utiliser une méthode de planification familial?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Sasa munatumiya mpango gani ya uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${fp_ever}, '1')

Quand vous / votre partenaire avez-vous commencé à utiliser cette méthode contraceptive?	1 Il y a 0 à 3 mois 2 Il y a 3 à 6 mois 3 Il y a 6 à 12 mois 4 Il y a plus de 12 mois 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ni wakati gani, wewe kama kipenzi cyako, mulianza kutimiza hii mpango ya ku zuwiya mimba ?	Ilisha pita 0 ao miezi 3, Ilisha pita miezi 3 ao 6, Ilisha pita miezi 6 ao 12, Ilisha pita zaidi ya miezi 12. Akataa jibu Ha juwi Akosa jibu	selected(${fp_present}, '1')
Lors de vos derniers rapports sexuels, est-ce que vous avez utilisé une méthode contraceptive incluant les préservatifs masculins et/ou féminins ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Maraa ya mwisho umekutana na mume wako mumetumiya mpango gani ya uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${fp_ever}, '1')
Lors de vos derniers rapports sexuels, quelle méthode contraceptive avez-vous utilisée ?	1 Stérilisation féminine (ligature des trompes) 2 Stérilisation masculine (vasectomie) 3 DIU, dispositif intra-utérin en cuivre 4 Injection 5 Implants 6 Pilule 7 Préservatif masculin 8 Préservatif féminin 9 Diaphragme	Je, uliwayi tumiya kipira ama kapoti nyuma ya hii mpango ingine ya uzazi?	Ugumba wa kya na mke Ugumba wa kiume Kifaa ndani ya mufuko wa uzazi Ku comwa shindano Ya muda mwingi ya kutekeleza / Implanoni. Kidonge ya kuzuwiya mimba Kondomu ya kiume Kondomu ya kike Kifungo ya kiunoni /diaphragm. Kupitiya kunyonyesha na ya amenorrhea (hukingwa wakati wa	selected(${fp_lastsex}, '1')

	10 11 12 13 14 15 97 98 99	Méthode de l'allaitement maternel et de l'aménorrhée (protégée pendant l'allaitement) Méthode des rythmes/ abstinence périodique Retrait (coït interrompus) Contraception d'urgence Abstinence totale Autre méthode (préciser) Refuse de répondre Ne sait pas Réponse manquante		utoaji wa damu na maziwa). Kupitiya njia ya kisai/kujikatalia mara kwa mara kitendo cya ndoa. Uondoaji/kukatiza ku fanya. Kidonge cya haraka cya kingo la mimba Kujikataliya kwa lote kitendo cya ndoa. Taja namna ingine unajuwa:___ Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____			Ingine (Eleza):_____		selected(${fp_lastsex_method}, '13')
Quelle sont les raisons pour lesquelles vous n'avez pas utilisé une méthode contraceptive lors de vos derniers rapports sexuels?	1 2	Cela va à l'encontre de mes croyances religieuses Mon conjoint / partenaire désapprouve	Sababu gani amukutumiya mpango wa uzazi?	Ina pingwa na sheria za dini langu Mume wangu ao mpenzi wa ndoa, haimufurahishe. Vinyume vyake vyani ogopesha. Na amuwa kuwa na watoto wengi.	REPONSES MULTIPLES SONT POSSIBLES.

	3	Les effets secondaires m'inquiètent		Si furahishwe na mpango ya kingo la uzazi. Hiyo ya nizuru wakati ya kitendo cya ndoa. Sikufikiya ku omba ruhusa Mume wangu ao mpenzi wa ndoa kutumiya dawa yoyote ya kingo kwa mpango ya uzazi. Hiyo ya punguza ama ya vunja utamu ya kitendo cya ndoa. Si kukuwa na fahamu wala ku juwa uwepo wa dawa yoyote ya kingo ya uzazi. Kwa wakati huu, hakuna dawa yoyote ya kingo ya uzazi tayari. Sijuwi wapi naweza pata ao ku uziya dawa yoyote ya kingo ya uzazi. Kama kuna ingine, eleza : Akataa jibu Ha juwi Akosa jibu	selected(${fp_lastsex}, '0')
	4	Je veux davantage d'enfants			
	5	Je ne suis pas d'accord avec la contraception			
	6	Cela me gêne pendant les rapports sexuels			
	7	Je n'ai pas réussi à demander / négocier l'usage d'un contraceptif avec mon partenaire			
	8	Cela réduit la satisfaction / le désir sexuels			
	9	Je n'étais pas au courant de l'existence des contraceptifs			
	10	Aucune méthode disponible à ce moment-là			
	11	Je ne savais pas où me procurer des contraceptifs			

	12 97 98 99	Autre (préciser) : __ Refuse de répondre Ne sait pas Réponse manquante			
Autre, préciser_____			Ingine (Eleza):_____		selected(${fp_lastsex_no}, '12')
Dans le passé, avez-vous déjà arrêté une méthode contraceptive après l'avoir utilisée quelque temps ?	1 0 97 98 99	Oui, j'ai arrêté une méthode contraceptive après quelque temps Non, j'utilise toujours la même méthode contraceptive, la même avec laquelle j'avais commencé Refuse de répondre Ne sait pas Réponse manquante	Siku zilizopita, uliwayi shimamisha mpango ya kingo la kuzaa badaa ya kuyitumiya siku za mbele ?	Ndiyo, niliwayi shimamisha mpango ya kingo la kuzaa bada ya muda kidogo. Hapana, na endelesha na mpango ya kingo la kuzaa niliwayi anza nayo. Akataa jibu Ha juwi Akosa jibu	selected(${fp_ever}, '1')
Quelle méthode avez-vous arrêté d'utiliser ?	1 2 3 4	Stérilisation féminine (ligature des trompes) Stérilisation masculine (vasectomie) DIU, dispositif intra-utérin en cuivre Injection	Kama "Ndiyo", ni mpango gani uliwayi shimamisha ?	Ugumba wa kya na mke Ugumba wa kiume Kifaa ndani ya mufuko wa uzazi Ku comwa shindano Ya muda mwingi ya kutekeleza / Implanoni. Kidonge ya kuzuwiya mimba	REPONSES MULTIPLES POSSIBLES – NE PAS LIRE LES REPONSES, MAIS DEMANDE

	5 6 7 8 9 10 11 12 13 14 15 97 98 99	Implants Pilule Préservatif masculin Préservatif féminin Diaphragme Méthode de l'allaitement maternel et de l'aménorrhée (protégée pendant l'allaitement) Méthode des rythmes/ abstinence périodique Retrait (coït interrompus) Contraception d'urgence Abstinence totale Autre méthode (préciser) Refuse de répondre Ne sait pas Réponse manquante		Kondomu ya kiume Kondomu ya kike Kifungo ya kiunoni /diaphragm. Kupitiya kunyonyesha na ya amenorrhea (hukingwa wakati wa utoaji wa damu na maziwa). Kupitiya njia ya kisai/kujikatalia mara kwa mara kitendo cya ndoa. Uondoaji/kukatiza ku fanya. Kidonge cya haraka cya kingo la mimba Kujikataliya kwa lote kitendo cya ndoa. Taja namna ingine unajuwa:____ Akataa jibu Ha juwi Akosa jibu	R : D'AUTRES METHODES ? JUSQU'A CE QU'AUCUNE REPONSE SUPPLEMENTAIRE NE SOIT DONNEE selected(${fp_discon}, '1')
Pourquoi avez-vous arrêté cette méthode ?	1 2 3 4	Je suis tombée enceinte en l'utilisant Je voulais tomber enceinte Mon mari a désapprouvé Je voulais une méthode	Kama "Ndiyo", ni kwa nini uliweza shimamisha mpango huu?	Nili beba mimba Nili itaji nibebe mimba Mume wangu haku nikubaliya Nili itaji mpango ya ngufu saana Vinyume/ masumbufu ya dawa ya mpango huu na uzaifu ya afia !.	REPONSES MULTIPLES POSSIBLE. selected(${fp_discon}, '1')

	plus efficace 5 Effets secondaires / problèmes de santé 6 Manque d'accès / le lieu pour le procurer est trop éloigné 7 Coûte trop cher 8 Pas pratique à utiliser 9 Cela dépend de Dieu et pas de moi 10 Ne tombe pas facilement enceinte / ménopausée 11 Pas de relations sexuelles fréquentes/ le mari est ailleurs 12 Vit séparée / divorcée 13 Autre, spécifier : ___ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Ukosefu ya kuyifikiya na hata vituo ni mbali kwa kuyifikiya. Ni dawa ya bei kali. Si dawa inayo stahili kwa kutumiya Yote ya tokana na Mungu ; ila si mimi. Mwili imejifunga yenyewe ju ya umri, na siwezi tena beba mimba. Si wasiliane tena ki ndoa na bwana yangu ; aliendaka mbali. Tuna ishi kila mtu kwa lwake ; na tuli ishaka achana. Kama ingine, Eleza Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____		selected(${fp_discon3}, '13')

Je vais vous lire à haute voix un certain nombre d'affirmations. Pour chacune d'entre elles, je souhaiterais que vous me disiez, sur une échelle de 1 à 5, dans quelle mesure vous la partagez – 1 représentant un accord total et 5 un désaccord total.		Nita wa someya kwa sauti kubwa idadi zimoja za ma julisho, kwa kila moja kati yazo, ningali penda uniambiye, kwa ngazi ya 1 mpaka 5, katika kipimo gani una i kubali – 1 ina wakilisha makubaliano ya jumla na 5 kutokubaliana kwa jumla 4.26a Kama mpenzi wangu (mwanaume ao mwanamuke) ana taka kupata vitendo vya ndoa na kama sipendi kabisa, ndaweza kukataza kiuraisi vitu kama vile kwamba tusiwe na vitendo vya ndoa.		UTILISES LA CARTE DE VISAGE.
Si mon partenaire veut avoir des rapports sexuels et que je ne le veux pas vraiment, je peux facilement arrêter les choses de telle sorte que nous n'ayons pas de rapports sexuels	1 1) entièrement d'accord 2 2) plutôt d'accord 3 3) indécis (e) 4 4) plutôt pas d'accord 5 5) pas d'accord du tout 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Kama mpenzi wangu (mwanaume ao mwanamuke) ana taka kufanya kitendo kya ndoa na kama sipendi kabisa, ndaweza kukataza kiuraisi vitu kama vile kwamba tusiwe na kitendo vya ndoa.	Ndiyo kabisa Ndiyo kidogo Na shindwa ku amua/Sina mpango Si sadikiye sana Hapana kabisa Akataa jibu Ha juwi Akosa jibu	LIRE A HAUTE VOIX. LIRE LES REPONSES.
Si mon partenaire et moi voulons avoir des rapports	1 1) entièrement d'accord 2 2) plutôt d'accord	Kama mpenzi wangu na mimi tuna taka kufanya	Ndiyo kabisa Ndiyo kidogo	

sexuels et que je veux me protéger, je peux toujours le convaincre d'utiliser une protection (contre les grossesses et les IST)	3 3) indécis (e) 4 4) plutôt pas d'accord 5 5) pas d'accord du tout 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	kitendo kya ndoa na nina taka ni ji kinge, nda eza mu shawishi ku tumikisha ukiongo (zaidi ya mimba na magonjwa ya zina).	Na shindwa ku amua/Sina mpango Si sadikiye sana Hapana kabisa Akataa jibu Ha juwi Akosa jibu	
Parfois, je me retrouve à avoir des rapports sexuels sans protection avec un copain / mon partenaire parce que je n'arrive pas à arrêter les choses à temps.	1 1) entièrement d'accord 2 2) plutôt d'accord 3 3) indécis (e) 4 4) plutôt pas d'accord 5 5) pas d'accord du tout 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Wakati mwengine, na ji kuta kupata kitendo vya ndoa na rafiki wa kike ama mume bila kujikinga/ mpenzi wangu ju si fikiye kuacha kwani sikuyitayarisha kwa wakati.	Ndiyo kabisa Ndiyo kidogo Na shindwa ku amua/ Sina mpango Si sadikiye sana Hapana kabisa Akataa jibu Ha juwi Akosa jibu	
SECTION 6: Bénéfices des subventions pour accouchement dans un lieu médical et participation dans le programme 'CCT'				
Maintenant j'ai quelques questions sur les services de santé maternelle ici dans votre communauté.		Kwa sasa nina ulizo kuusu bituo bya afya ya wa mama katika jamii yenu?		selected(${ health_zone}, '3')
Est-il possible de recevoir une subvention pour les frais d'un accouchement dans un centre de santé ou hôpital dans votre communauté ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Je kuna gisi ya ku pata msaada ngabo ya malipo mwanamke akijifungula ku kituo kya afya(ku centre ao ku hospitali)?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${ health_zone}, '1')

Qu’est-ce qu’on doit faire pour recevoir cette subvention ?	1 2 97 98 99	Il faut aller à 3 CPNs Mauvaise réponse Refuse de répondre Ne sait pas Réponse manquante	Nini mtu anapashwa fanya ku pata msaada uwo?	kwenda ku kipimo maraa tatu jibu ingine siyo ile ya kwanza Akataa jibu Ha juwi Akosa jibu	LA SEULE REPONSE CORRECTE EST 'Il faut aller...'. POUR TOUTES LES AUTRES REPONSES MARQUEZ 'Mauvaise réponse.' selected(${health_zone}, '1')
Cette subvention paie quoi?	1 2 97 98 99	Une partie des frais d’un accouchement dans une institution médicale (CORRECT) Autre réponse (mal réponse) Refuse de répondre Ne sait pas Réponse manquante	Msaada uwo unalipa nini?	kipande ya malipo kama amezaa mu kituo kya afya jibu ingine siyo ile ya kwanza anakataa jibu ajuwi jibu anakosa jibu	LA SEULE REPONSE CORRECTE EST 'Une partie des frais...'. POUR TOUTES LES AUTRES REPONSES MARQUEZ 'Mauvaise réponse.'

				selected(${know_subsidy}, '1')
Pouvez-vous recevoir une subvention pour un accouchement compliqué (par exemple si vous avez besoin d'une césarienne ?)	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Msaada uwo unaangaliya piya mutu aliejifungula kwa kigumu na ku pasuliwa na kazalika	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	LIRE LES REPONSES A HAUTE VOIX. selected(${know_subsidy}, '1')
Avez-vous reçu cette subvention lors votre dernier accouchement ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umepata msaada uwo umepo zaa marayamwisho?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${child1_birthplace}, '3') or selected(${child1_birthplace}, '4')
Dans votre communauté, est-ce que les femmes peuvent être payées si elles utilisent le planification familial et/ou espacent leurs naissances ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mu kijiji yenu wanawake wana lipwa waki panga uzazi?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${health_zone}, '1')
Est-ce que votre partenaire/mari sait que ce programme existe?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Mpenzi wako anajuwa kama kuna mpango uu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${know_CCT}, '1')

Comment est-ce que vous avez entendu de ce programme?	1 Relais communautaire/ peer educateur a visité la maison pour expliquer le programme 2 Centre de santé/hôpital 3 Session de sensibilisation en groupe 4 Mes amies 5 Autre, préciser_____ 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Comment est-ce que vous avez entendu de ce programme?	Relai ao pair alitu fasiliya ile mpango Ku hospitali ao kituo cha afya cha watu wote. Uhamanishaji mu kikundi Rafiki wangu Kama kuna ingine, eleza : Akataa jibu Ha juwi Akosa jibu	selected(${know_CCT}, '1')
Etes-vous inscrit dans ce programme?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umeandikishwa kwa mpango uwu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${know_CCT}, '1')
Dans quel mois et quelle année avez-vous adhéré au programme ?		Makati gani ume andikishwa mu mpango uwu?		selected(${subscribed_CCT}, '1')
Vous participez encore à ce programme ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Ukingali katika mpango uwo?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${subscribed_CCT}, '1')
Pourquoi vous avez arrêté de participer dans le programme?	1 Je suis tombée enceinte 2 J'ai accouchée	Sababu gani umeaca ku sherekeya mpango uwu?	Nime pata mimba Nime zaa	selected(${current_participant_CCT}, '0')

	3 J'ai voulu avoir plus d'enfants 4 Les paiements étaient en retard 5 Les paiements ne sont peu/ ne sont pas assez 6 La participation prend trop de temps 7 Je n'ai pas voulu utiliser une contraceptive 8 Autre reponse, préciser 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante		Nimetaka ku pata wengine watoto Malipo ilikuwa nacelewa Malipo aikukuwa ya ku tosha/ ilikuwa kidogo Ilikuwa na kamata wakati mingi Sikutaka tumiya ile mipango ya uzazi ingine jibu Akataa jibu Ha juwi Akosa jibu Akataa jibu Ha juwi Akosa jibu	
Autre, préciser_____		Ingine (Eleza):_____		selected(${discont_CCT}, '8')
Est-ce que vous avez déjà reçu un/quelques paiement(s) du programme?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Umesha lipwa na mpango uwu?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	selected(${subscribed_CCT}, '1')
Combien de paiements avez-vous reçu ?		Maara ngapi (umesha lipwa)?		selected(${received_CCT}, '1')
Le dernier paiement du programme que vous avez recu a été combien de dollars ?		Malipo ya mwisho umepata ilikuwa ngapi mu ma dollari?		

Qu’est-ce que vous avez fait avec l’argent que vous avez reçu du programme ?	1 2 3 4 5 97 98 99	J’ai gardé l’argent pour l'économiser ou le dépenser moi-même J’ai donné l’argent à mon mari/partenaire J'ai gardé un peu d'argent moi-même et j'ai donné le reste à mon partenaire/mari J’ai donné l’argent à quelqu’un d’autre dans notre ménage Autre, préciser____ Refuse de répondre Ne sait pas Réponse manquante	Umefanya nini na makuta uliyo pata katika mpango uwu?	Nimeweka ile pesa Nimepatiya mume ao mcumba wangu nimeweka makuta kidogo naingine nime mupatiya mume wangu Nime ipatiya mutu mwingine mu jamaa yangu ingine jibu anakataa jibu ajuwi jibu anakosa jibu	LIRE LES REPONSES A HAUTE VOIX. UNE SEULE REPONSE EST POSSIBLE.
Autre, préciser_____			Ingine (Eleza):_____ ___		selected(${used_CCT}, '5')
Avez-vous décidé d’espacer les naissances et/ou avoir moins d’enfants parce que vous voulez continuer à participer dans ce programme et à recevoir des paiements ?	1 2 3 4 97 98 99	Oui, j’ai décidé d’attendre/d’arrêter d’avoir plus d’enfants à cause du programme Non, j’ai décidé d’attendre/ d’arrêter d’avoir plus d’enfants pour d’autres raisons Non, je ne vais pas attendre d’avoir plus d‘enfants Autre réponse, préciser: Refuse de répondre Ne sait pas Réponse manquante	Muli hamuwa ku panga uzazi juu muna taka endelesha ku shiriki ndani ya mpango uwu na kuendeleya na pokeya?	Ndiyo naitika ku panga uzazi sababu ya mpango uwu Apana nimeitika ku panga uzazi sababu zingine zangu Aapana sitaki ku pata wengine watoto ingine sababu, uiseme anakataa jibu ajuwi jibu nakosa jibu	LIRE LES REPONSES A HAUTE VOIX. UNE SEULE REPONSE EST POSSIBLE. selected(${received_CCT}, '1')

Autre, préciser_____		Ingine (Eleza):_____		selected(${fp_bc_CCT, '4')
L'enquete est fini. Merci beaucoup pour votre temps. Si vous avez des questions vous pouvez appeler la coordinatrice de l'enquete a ce numéro.		Aksante tumemaliza. Kama kunaulizo mutaita iyi number		
Code du superviseur				
FIN				
Nous avons terminé l'entretien. Merci beaucoup de nous avoir accordé votre temps et votre collaboration		Hivyo, tume maliza majadiliano yetu ! Aksanti sana kwa muda ulitutoleya na kwa ushirikiyano njema !		
Avez-vous vous-même des commentaires à faire ou des questions à poser ?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Je, una swali ao pendekezo lingine fulani ? Pendekezo la aliye jibu : _____	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	
Est-ce que la femme a demandé informations sur la planification familial?	1 oui 0 non 97 Refuse de répondre 98 Ne sait pas 99 Réponse manquante	Est-ce que la femme a demandé informations sur la planification familial?	1 Ndiyo 0 Hapana 97 Akataa jibu 98 Ha juwi 99 Akosa jibu	NE LISEZ PAS.
Commentaires de l'enquêteur/ l'enquêtrice :		Commentaires de l'enquêteur/l'enquêtrice:		

Annex C. Study information for participants (quantitative and qualitative) and participant consent forms

L'étude sur l'effet de 'Conditional Cash Transfers' et l'utilisation des services de santé maternelle

INFORMATION POUR LES PARTICIPANTS (quantitatif)

Je m'appelle _____ et je suis une chercheuse.

Nous faisons une enquête pour une école suisse et l'École de Santé Publique à Bukavu. Cette enquête fait partie d'une étude sur la santé maternelle dans la région de Kivu Sud. Nous voudrions en savoir plus sur les pratiques des femmes pendant la grossesse. Nous allons utiliser cette information pour améliorer les services de santé maternelle et les programmes qui encouragent les femmes d'utiliser ces services.

Nous vous invitons à répondre à quelques questions qui concernent votre vie, votre dernière grossesse et vos choix autour de la santé reproductive et la fertilité. Dans 3, 6, 9 et 12 mois nous essayons de vous contacter pour poser quelques questions sur la grossesse et votre utilisation des services de santé.

Si vous participez, vos informations et vos réponses aux questions resteront complètements anonymes ; nous n'allons pas partager vos réponses avec personne y compris votre mari, votre famille, les prestataires, ou d'autres personnes. Personne ne sera présent pendant l'enquête.

Votre participation n'est pas forcée et vous pouvez arrêter l'entrevue si vous voulez sans problème.

Vous ne recevrez pas d'argent ou d'autres cadeaux pour votre participation. Vous ne devez pas payer pour participer.

Est-ce que vous voudriez participer ?

L'étude sur l'effet de 'Conditional Cash Transfers' et l'utilisation des services de santé maternelle

INFORMATION POUR LES PARTICIPANTS (qualitatif)

Je m'appelle _____ et je suis une chercheuse.

Nous faisons les entrevues pour une école suisse et l'École de Santé Publique à Bukavu.

Ces entrevues font partie d'une étude sur la santé maternelle dans la région de Kivu Sud.

Nous voudrions en savoir plus sur les pratiques des femmes pendant la grossesse y compris les points de vue des hommes, des prestataires et autres membres de la famille et communauté. Nous allons utiliser cette information pour améliorer les services de santé maternelle et les programmes qui encouragent les femmes d'utiliser ces services.

Nous vous invitons à répondre à quelques questions qui concernent la santé maternelle dans votre famille et votre communauté.

Si vous participez, vos informations et vos réponses aux questions resteront complètements anonymes ; nous n'allons pas partager vos réponses avec personne y compris votre mari/femme, votre famille, les prestataires, ou d'autres personnes. Personne ne sera présent pendant l'enquête.

Votre participation n'est pas forcée et vous pouvez arrêter l'entrevue si vous voulez sans problème.

Vous ne recevrez pas d'argent ou d'autres cadeaux pour votre participation. Vous ne devez pas payer pour participer.

Est-ce que vous voudriez participer ?

Si vous voudriez participer, je dois obtenir votre signature sur ce formulaire de consentement.

Participant consent form – FRENCH

Enquêteur | | | | | **:**

Retenez que votre participation à cette étude ne vous profitera directement, mais il pourra profiter à d'autres dans le futur.

Retenez que votre participation à cette étude est volontaire. Vous êtes libre de refuser si vous le souhaitez. Si vous acceptez de participer, vous pouvez refuser de répondre à certaines questions et interrompre l'entretien à tout moment.

1) Avez-vous reçu cette information lue par un chercheur de l'étude ?

Oui ☐ **Non** ☐

Déclaration de consentement et signature :

OUI, j'ai lu entièrement ce formulaire de consentement ou on me l'a lu et toutes les questions ont été répondues à ma satisfaction.

OUI, j'ai été informé par l'enquêteur sous forme orale ou écrite sur les objectifs de cette étude, et sur les façons dont l'information que je vais donner peut être utilisée. J'ai eu assez de temps pour prendre ma décision. Toutes les questions que j'ai concernant l'étude ont reçu une réponse satisfaisante.

OUI, je suis d'accord que les responsables de cette recherche, et les représentants du comité d'éthique peuvent obtenir un aperçu des transcriptions de l'information que je fournis, mais dans la plus stricte confidentialité.

OUI, je confirme de participer à cette étude de ma propre volonté. Je sais que je peux retirer mon consentement à tout temps. Je peux garder une copie de ce formulaire de consentement ?

Consentement:

2) Etes-vous d'accord de participer à cette étude ?

☐ Non

☐ Oui

☐ J'ai besoin de plus de temps pour décider, un autre temps de contact a été convenu:

TITRE DE L'ÉTUDE :	«L'effet des Conditional Cash Transfers sur l'utilisation des services de santé maternelle ».
Participant à l'étude : Nom et Signature: Date de naissance ou Age estimé : Sexe du participant (e)	_____ _____ ☐ masculin ☐ féminin
Participant qui ne sait ni lire ni écrire : Nom et Signature Date de naissance ou Age estimé: Sexe du participant (e)	_____ _____ ☐ masculin ☐ féminin
Témoin du participant qui ne sait ni lire ni écrire : Nom et Signature: Sexe du participant (e) :	_____ ☐ masculin ☐ féminin

Participant consent form – SWAHILI

Mtafuti/Muulizaji: ☐ ☐ ☐ ☐

Kipawa ya makubaliano :

Tafazali, tambua ya kwamba mchango wako kwa hii utafuti, haina faida ya rafla lakini ina weza leta faida kwa wengine mu siku zijazo .

Tafazali, ujuwe ya kwamba mchango wako kwa hii utafuti ni kwa hiyari yako / ni kwa utashi yako.. Ujisikie huru ku kataa kama una itaka. Pia, ukikubali, una weza pia kataa kujibu swali ao ku kata mazungumzo hii unapoiona ya muhimu.

1) Umepata habari iyi toka (ao someka na) mutafutaji wa utafuti hii?

Ndiyo **Apana** ☐

Hakikisko la makubaliano na sahihi.

Ndiyo,nime soma kirefu makubaliano haya ama wameinisomea, na swali zote zime jibiliwa niki tosheka.

Ndiyo, nili julishwa na mtafuti kwa maongezi ama kwa maandiko kuhusu shabaa ya utafiti huu na kuhusu namna habari nina weza pana zina weza kubaliwa ao faidisha. Nili pata muda kwa ki refu kwa ku cukuwa hakikisho hii. Swali zote kuhusu utafiti huu,zili pata jibu nzuri kwangu.

Ndiyo, nina kubali ya kwamba viongozi wa utafiti hii na wa akilishi wa Kamati ya utekelezaji wanaweza kuwa na mwangaza wa uhusiano wa habari ambayo nina towa, lakini kwa siri kama vile iwezekanavyo.

Ndiyo,na kubali kuhuzuria kwenye utafiti hii kwa hiari yangu. Pia na juwa ya kwamba na weza kamata mpango ya kustisha kwa wakati yoyote !. Tafazali, na weza cunga sehemu ya maongezi haya ya makubaliano kwenye ki kartasi ?

Makubaliano :

1) Je, una kubali ku cangiya kwenye utafiti hii ?

☐ Hapana
☐ Ndiyo
☐ Nina lazima ya wakati mingi kwa ku amuwa , muda ingine ya mawasiliyano ime imekubaliwa.

2) UTAFUTI INAITWA**:**	« Mafaa ya masharti ya kuhamisha feza".
M**uhuzuriaji** kwa utafiti : Jina na sahihi : Siku za kuzaliwa ao myaka ina yo waziwa: Umbo ya muhuzuriaji	_____ _____ Mume ☐ Muke ☐
Muhuzuriaji asiye juwa kusoma wala kuandika : Jina na sahihi : Siku za kuzaliwa ao myaka ina yo waziwa: Umbo ya **muhuzuriaji**	_____ _____ Mume ☐ Muke ☐
Mshuhuda wa ya muhuzuriaji asiye juwa ku soma wala kuandika : Jina na sahihi : Siku za kuzaliwa ao myaka ina yo waziwa: Umbo la ya **muhuzuriaji**.	_____ _____ Mume ☐ Muke ☐

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Nationality: American
Based in Chicago, Illinois

Education

Swiss Tropical and Public Health Institute — 2017
Basel, Switzerland

PhD Epidemiology
Cum Laude
Department of Epidemiology & Public Health
Research group: Society, Gender & Health

PhD Dissertation:
Understanding trends, transitions & perceptions of fertility and family planning in a fragile context: South Kivu, Democratic Republic of Congo

Mixed methods analysis of quantitative survey & qualitative/ethnographic data

University College London — 2012
London, England

MSc, International Child Health
Graduated with Merit

MSc Dissertation:
"As a man, your wife and children's welfare should be very important to you": Male Involvement in newborn care in rural Ghana, West Africa

Secondary Analysis of Qualitative Data

Mount Holyoke College — 2007
South Hadley, Massachusetts

Bachelor of Arts, Critical Social Thought (Gender & Development) & French
Graduated Phi Beta Kappa, Magna Cum Laude

Professional Experience

Qualitative technical support, older women's economic rights — January 2020-present

Ms. Kate Horstead, Age International-UK

Ethiopia, Thailand (*report support to*: Malawi, Vietnam, Philippines)

- Formulation of data collection methodology & research tools
- Design & on-site facilitation of highly interactive qualitative research training workshops & materials for Africa & Asia-based research teams
- Data analysis coaching & double coding, refinement of coding tree

Child protection in emergencies Monitoring & Evaluation consultant — October 2018-January 2020

Ms. Nolwenn Gontard, Plan International Belgium

Central African Republic

- Operationalize & supervise mixed methods impact evaluation of cash transfer program to reunite unaccompanied children with their families
- Develop quantitative & qualitative evaluation tools, field methodology
- Design and facilitated training of in-country staff; complete qualitative analysis; write intermediary and final reports

Gender analysis consultant — November 2019

Ms. Geertje van Mensvoort, CORDAID

Burkina Faso & Niger

- Conduct gender analysis in each country focusing on gender roles, girl/youth empowerment, adolescent SRH & gender transformative approaches
- Develop methodology, qualitative data collection tools & facilitate focus groups with key populations

Qualitative analysis consultant, global health partnership synergy analysis — September 2019

Dr. Andrew Dykens, School of Public Health

University of Illinois at Chicago

- Analyze qualitative data from partnership synergies survey
- Write up results for mixed-methods peer-reviewed journal article

Adjunct university instructor — July 2018 - present

Dr. Karin Opacich & Dr. Karen Peters, School of Public Health

University of Illinois at Chicago

- Instructor on undergraduate courses *Public Health & Global Societies-110* & *Public Health & Global Citizenship-310*
- Develop and instruct courses including twice-weekly lectures, interactive activities, learning assessments and student mentorship for 100 students

Research consultant, WASH interventions

Dr. Tessa Swigart, Development Media International

London, England

- Develop protocol for & conduct 2 literature reviews on household water storage & hand washing interventions in Burundi
- Write summary report & multiple message briefs on findings in French as foundation for WASH intervention messages via radio

Team lead qualitative analysis, reporting & article write up

Dr. Jen Hollowell, Development Media International

London, England / Ouagadougou, Burkina Faso

- Lead & advise Burkinabé research team on qualitative analysis of focus group discussion data in French
- Conduct counter-verification of data analysis
- Develop project report with local staff in French
- Writing & publication of peer-reviewed journal article

Research consultant, WHO maternal immunization situation analysis

Dr. Sonja Merten, Swiss Tropical & Public Health Institute / WHO

- Develop quantitative & qualitative tools, maternal vaccination country surveys
- Create and manage technical side of electronic data collection tool (ODK)
- Desk reviews on service access & vaccine hesitancy, data analysis plan

Qualitative research training facilitator & data collection supervisor

Dr. Jen Hollowell, Development Media International

Ouagadougou, Burkina Faso

- Design & facilitate qualitative research training for local staff in French
- Contribute to focus group discussion field guide
- Coordinate & supervise completion of focus group discussions
- Design & facilitate data analysis workshop for local staff in French

Field research coordinator, sexual & reproductive health program evaluation 2014-2017

Dr. Sonja Merten, Swiss Tropical & Public Health Institute
South Kivu, Democratic Republic of Congo

- Coordinate & manage research activities for two large-scale, mixed-methods programme evaluations in 6 health districts: field logistics, project finances, contracts with local partners & data quality
- Create and manage technical side of electronic data collection tool (ODK)
- Organize & lead training of data collectors using electronic tablets & ODK
- Coordinated & led qualitative data collection including in-depth interviews, focus group discussions & participatory feedback methods
- Manage program consultants & relationships with local partners
- Quantitative & qualitative data analysis & reporting, publications

Lead facilitator qualitative analysis workshop 2017

Ms. Sophie Tanner, International Rescue Committee
South Kivu, Democratic Republic of Congo

- Lead qualitative analysis workshop of in-depth interviews to evaluate a cash transfer program in internally displaced persons camp
- Develop theory of change with workshop participants, completed final evaluation report

Co-facilitator quantitative data collection workshop

Dr. Serge Diagbouga, L'institut National de Recherche en Sciences de la Santé (IRSS) 2017

Dr. Sonja Merten, Swiss Tropical & Public Health Institute

Ouagadougou, Burkina Faso

- Plan & facilitate quantitative data collection training of research assistants for counter-verification survey
- Train & supervise qualitative data collection

Lead facilitator, qualitative data collection training 2016

Dr. Lindsay Stark & Dr. Marni Sommer, Columbia University
South Kivu, Democratic Republic of Congo

- Train research assistants in qualitative data collection methods for program evaluation of adolescent girls' empowerment program
- Contribute to data collection tool development & methodology
- Facilitate piloting, modification of data collection tools & transcription

Research consultant, community health worker manuscript write up 2014

Dr. Zelee Hill, University College London, England

- Conduct literature searches & data extraction on supervision of CHWs in LMICs
- Co-author of review article on supervision practices and implications for CHWs

Research consultant, maternal health 2013

Ms. Loveday Penn-Kekana, London School of Hygiene & Tropical Medicine/Merck for Mothers, England

- Member of *Merck for Mothers* Evaluation Team analyzing maternal health interventions involving the private sector in low- and middle-income countries
- Write systematic mapping protocol, develop coding system for literature mapping & complete data extraction

External expert, maternal, child and newborn health guideline development-MASCOT systematic review team 2013

Ms. Annie Portela, World Health Organization, Switzerland

- Member of international expert systematic review team coding 35,000 articles on health systems and community-based maternal health interventions
- Prepare documents for WHO Guidance Development Group to address specific PICO questions targeting health promotion interventions for maternal and newborn health

Research consultant, guideline development for women's groups & improvement of maternal & newborn health 2012

Dr. Anthony Costello, University College London, Nepal

Ms. Annie Portela, World Health Organization, Switzerland

- 2 months research in Nepal with women's groups using participatory learning & action to improve maternal & newborn health outcomes
- Organize summary charts, author case studies, present findings to programme partners & stakeholders at WHO headquarters-Geneva; authored report of consultative meeting

Language Skills

- Native English speaker
- Highly proficient in oral & written French, particularly in research settings
- Beginning conversational Swahili
- Beginning conversational Wolof

Data Collection & Analysis Software

- Extensive experience in development & management of digital survey tools using *Open Data Kit* software, server & handheld tablets
- Proficient quantitative data analysis with *STATA v 14*
- Extensive knowledge & use of *EPPI Reviewer 4* online Systematic Review Tool
- Highly proficient in qualitative data transcription & analysis programs including *Atlas.ti* & *Dedoose*

Professional competencies

- Extensive knowledge & field experience in design, coordination, management, collection & analysis of qualitative & quantitative data in fragile contexts & with vulnerable populations
- Clear, concise & effective written & oral communication
- Excellent management of team members, finances & logistics for large-scale projects at a distance or on-site
- Successful development & implementation of data collection/analysis training workshops in both English & French
- Positive interactions with diverse populations
- High level of cultural competency, especially in sub-Saharan African settings
- Sophisticated literature searches, data extraction & analysis
- Dynamic creativity in problem solving & analysis
- Both highly motivated independent worker & successful team member
- Breadth & depth of experience in independent research, synthesis & presentation to a variety of audiences

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Publications

2019. Jennifer Hollowell, **Mari Dumbaugh**, Mireille Belem, Sylvain Kousse, Tessa Swigart, Zelee Hill. *'Grandfather, aren't you going to sing for us?': A qualitative study of current childcare practices and caregivers' perceptions of and receptivity to Early Childhood Development activities in rural Burkina Faso.* **BMJ Global Health.** 4:e001233.

2019. Schwarz, J., **Dumbaugh, M.**, Bapolisi, W., Ndorere, M. S., Mwamini, M. C., Bisimwa, G., & Merten, S. *"So that's why I'm scared of these methods": Locating contraceptive side effects in embodied life circumstances in Burundi and eastern Democratic Republic of the Congo.* **Social Science & Medicine**, *220*, 264-272.

2018. **Mari Dumbaugh, Wyvine Bapolisi, Ghislain Bisimwa, Marie-Chantale Mwamini, Paula Mommers, Sonja Merten.** ***Navigating fertility, reproduction & contraception in the fragile context of South Kivu, Democratic Republic of Congo: 'Les enfants sont une richesse.*** **Culture, Health & Sexuality.** DOI: 10.1080/13691058.2018.1470255

2017. **Mari Dumbaugh,** Wyvine Bapolisi, Jennie van de Weerd, Michel Zabiti, Paula Mommers, Ghislain Bisimwa Balaluka, Sonja Merten. *Evaluating the comparative effectiveness of different demand side interventions to increase maternal health service utilization and practice of birth spacing in South Kivu, Democratic Republic of Congo: An innovative approach.* ***BMC Pregnancy & Childbirth****. 17:212.*

2016. Matthew Chersich, Stanley Luchters, Duane Blaauw, **Mari Dumbaugh**, Loveday Penn-Kekana, Ashar Dhana, Siphiwe Thwala, Leon Mijlmakers, Emily Vargas, Elinor Kern, Francisco Becerra-Posada, Josephine Kavanagh, Priya Mannava, Langelihle Mlotshwa, Victor Becerril-Montekio, Annie Portela, Helen Rees. *Mapping of research on maternal health interventions in low- and middle-income countries: a review of 2292 publications between 2000 and 2012.* **Globalization & Health.** 12:52

2016. Matthew Chersich, Victor Becerril-Montekio, Francisco Becerra-Posada, **Mari Dumbaugh**, Siphiwe Thwala, Elinor Kern, Loveday Penn-Kekana, Emily Vargas, Langelihle Mlotshwa, Ashar Dhana, Josephine Kavanagh, Pirya Mannava, Anayada Portela, Duane Blaauw, Mario Tristan, Helen Rees, Leon Bijlmakers. *Reflections on methodology of a large systematic mapping of maternal health interventions.* **Globalization & Health.** 12:51.

2014. **Mari Dumbaugh, Charlotte Tawiah-Agyemang, Alex Manu, Guus ten Asbroek, Betty Kirkwood and Zelee Hill.** *Perceptions of, attitudes towards and barriers to male involvement in newborn care in Ghana, West Africa: a qualitative analysis.* **BMC Pregnancy & Childbirth.** 14:269.

2014. Zelee Hill, **Mari Dumbaugh**, Lorna Benton, Karin Källander, Daniel Strachan, Augustinus ten Asbroek, James Tibenderana, Betty Kirkwood, Sylvia Meek. *Supervising community health workers in low-income countries – a review of impact and implementation issues.* **Global health Action.** 7.

2014. Katharine Footman, Matthew Chersich, Duane Blaauw, Oona MR Campbell, Ashar Dhana, Josephine Kavanagh, Mari Dumbaugh, Siphiwe Thwala, Leon Bijlmakers, Emily Vargas, Elinor Kern, Francisco Becerra and Loveday Penn-Kekana. ***A systematic mapping of funders of maternal health intervention research 2000-2012.*** **Globalization and Health.** 10:72.