### DISSERTATION COVER SHEET

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<th>DISSERTATION SUPERVISOR:</th>
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<td>Dr. Audrey Prost</td>
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<td>What do men in the Samburu tribe think about family planning programmes that relate family size to the environment?</td>
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Acknowledgments

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Abstract

Introduction: Men have been identified as a barrier to the uptake of family planning services in Sub-Saharan Africa. This study investigated the thoughts of men from the pastoral Samburu tribe in Kenya on the Community Health Africa Trusts’ (CHAT) PHE programme, focusing on their views about the relationship between family size and the environment.

Methods: I carried out three focus group discussions and nine semi-structured interviews with a total of 27 Samburu men equally divided into the age groups 18-30, 30-45 and 45+. Following translation and transcription of the qualitative data collected, I conducted a thematic analysis.

Results: Men universally supported the environmental education that CHAT’s FP programme delivers, highlighting their dependency on natural resources, and how it is difficult to provide for a large family and maintain livestock during prolonged drought. Having many children and large herds of livestock were said to lead to exhaustion of natural resources, environmental degradation and wildlife dispersal. Key economic and educational benefits to the community from environmental and wildlife conservation were highlighted, along with the start up of businesses by women and increased education of children leading to future employment. Large family size and traditional livestock practices were understood as incompatible with wildlife conservation. Despite understanding the benefits of FP, not all men intended to use contraception in their own homes. Men encouraged CHAT’s programme to visit communities that continued to live with large families and livestock, describing them as responsible for a resource
exhaustion-migration cycle that caused environmental degradation in the region.

**Conclusions:** Relating family size to the environment is a compelling strategy to improve support for FP among Samburu men. This is largely due to the demonstrated economic and livelihood benefits that reductions in family size, and the resulting improvements in natural resource availability and wildlife conservation bring to the community. CHAT should continue to provide its PHE FP programme in the region, expanding where possible to include hard-to-reach communities. Kenyan FP policy should consider integrating community-based PHE strategies among underserved pastoral groups living in fragile ecosystems.
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<tr>
<td>CHAT</td>
<td>The Community Health Africa Trust</td>
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<tr>
<td>CYP</td>
<td>Couple Years of Protection: CYP is the equivalent of 1 year of protection from an unintended pregnancy.</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
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<tr>
<td>FP</td>
<td>Family Planning</td>
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<tr>
<td>FPCORP</td>
<td>Family Planning Community Own Resource Person</td>
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<tr>
<td>LMIC</td>
<td>Low and Middle Income Country</td>
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<tr>
<td>Manyatta</td>
<td>A temporary Samburu family/clan and livestock settlement</td>
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<tr>
<td>MMR</td>
<td>Maternal Mortality Ratio: The annual number of maternal deaths per 100,000 live births.</td>
</tr>
<tr>
<td>Moran</td>
<td>A generation of Samburu warrior men, commencing at circumcision and lasting for approximately 15 years before marriage.</td>
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<tr>
<td>NRT</td>
<td>The Northern Rangelands Trust</td>
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<td>PHE</td>
<td>Population Health Environment</td>
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<tr>
<td>SPREAD</td>
<td>Sustaining Partnerships to Enhance Rural enterprise and Agribusiness Development – USAID funded Rwandan project.</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>TFR</td>
<td>Total Fertility Rate: The average number of children born per woman if she were to pass through the childbearing years bearing children according to a current schedule of age-specific fertility rates.</td>
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Introduction

The Samburu tribe is a semi-nomadic pastoralist group that hails from a harsh scrub-desert region in and around Samburu county, northern Kenya. This region which experiences frequent droughts that severely limit water and food availability. In addition to environmental pressures, the traditional livelihoods of East African pastoral societies are being squeezed politically and economically through loss of herding land, changing land use, out-migration and the commodification of livestock (Fratkin, 2001). Samburu County has a high maternal mortality ratio (472/100,000 live births) (UNFPA, 2014) along with poor infrastructure and literacy rates. In addition to this, fewer than one in three live births in Samburu are attended by a skilled birth attendant. The 2014 Kenyan Demographic Health Survey revealed that Samburu County has a total fertility rate of 6.3 and a contraceptive prevalence rate (CPR) of 22.7% compared to the national average of 58%. Due to the traditional Samburu association of family size with wealth, having more children ensures both care of parents into old age and the tending of family livestock (Spencer, 1965).

The community health Africa trust (CHAT) delivers mobile health services in remote and underserved communities, including those in Samburu. CHAT’s mobile clinics provide basic curative and immunisation services along with HIV/AIDS and Tuberculosis screening and treatment. CHAT also integrates a family planning (FP) programme, aligned with evidence that voluntary contraceptive usage reduces pregnancy related health risks in women, reduces infant mortality, contributes to HIV prevention and the
empowerment of women (WHO, 2015c). Samburu County has an unmet need for family planning of 50% (ADHRC, 2016).

CHAT’s FP programme is a Population Health Environment (PHE) initiative, which seeks to reduce population pressures on the environment and improve the health of the communities that live in it. The Samburu rely upon limited water and grazing resources to sustain their herds of cattle and goats. Through this PHE initiative that relates family size to the environment, and thus the Samburu’s pastoral livelihood, CHAT reports increasing acceptance of FP among men. Their involvement is essential to the success of a family planning programme in this context due to the patriarchal nature of Samburu society.

My interest in this area stems from previously living in Kenya and volunteering with the Northern Rangelands Trust who support the development of resilient community conservancies in Samburu and the surrounding region. This qualitative study focused on the views of Samburu men towards CHAT’s PHE FP programme, and provided an opportunity for the men to communicate their views, with the hope that the information can guide future implementation of the programme.
Literature review

The importance of family planning for maternal and population health

In 2015, an estimated 303,000 women died due to complications of pregnancy and childbirth globally. 99% of these maternal deaths occurred in low and middle-income countries and 66% in Sub-Saharan Africa (SSA) (WHO, 2015a). In 2015 4.5 million infants died in the first year of life, with approximately 2.7 million in the first month of life (WHO, 2015b). The leading causes of these early deaths include complications of preterm birth, intrapartum-related deaths and infections (Liu et al., 2012). In 2014, 74 million unintended pregnancies occurred in LMICs, along with 28 million unplanned births, 20 million unsafe abortions, eight million miscarriages and 0.8 million stillbirths (Singh et al., 2014; Sedgh et al., 2014a).

In 1987 the ‘Safe Motherhood Initiative’ was founded to reduce maternal mortality worldwide. The campaign identified four main areas for improvement: antenatal care, safe delivery, postnatal care and family planning (FP). Unlike the other three strategies, which involve care during and after pregnancy, FP reduces the number of maternal deaths by lowering the number of pregnancies through the use of contraceptives, including hormonal implants and pills, IUDs, sterilization, male and female condoms and modern methods of periodic abstinence. Having fewer pregnancies reduces the risk of complications that are associated with them and lowers maternal mortality, particularly in resource poor settings with limited access to safe obstetric services.
The definition and measurement of unmet need for contraception has evolved since its conception in 1978. Because there are various inputs to the measurement (including retrospective desire for contraception, infecundity, lactation amenorrhea status and use of modern or traditional methods), the calculation of this family planning indicator is complex, but it produces the widely accepted understanding of unmet need, which is the percentage of women who wish to avoid pregnancy but are not currently using contraception (Cleland et al., 2014). Unmet need for contraception is influenced by both supply and demand side factors. Individuals may have access to contraceptives, but due to demand side factors such as lack of knowledge and cultural, religious or spousal objections they may not have any intention of using contraception. Bongaarts (2014) estimated that FP programmes could reduce unmet need in LMICs by 10% and increase demand by 12%. Interpretations of unmet need must be contextually sensitive: the measure is a dynamic indicator, that can change from low levels in regions where fertility preferences have not started to decline, to higher levels during the transition between high and low fertility, when the demand for contraception has been created.

In 2014 877 million women of reproductive age in LMICs wanted to avoid a pregnancy (Singh et al., 2014). Of these, 225 million were defined as having an unmet need for modern contraception. The same paper states that if the contraceptive needs of these 225 million women were met, maternal deaths would be reduced in number by 70,000 (18,000 from unsafe abortion and 53,000 from complications of pregnancy and
The maternal mortality ratio (MMR) has been shown to fall with increased use of contraception. Analysis of 40 LMICs by Cleland et al. (2012) revealed that for each percentage point increase in current contraceptive use in married women, the MMR decreased by 4.3 deaths per 100,000 births. Based on 2008 data, analytical modelling carried out by Ahmed et al. (2012) estimated that 88,227 deaths were averted in SSA by use of contraceptives, which made up 31.9% of maternal deaths. The respective estimate for Kenya was 6162 deaths averted, or 52% of the total.

In rural areas with poor health infrastructure, FP has been shown to be the most cost-effective and feasible way to reduce maternal deaths, since it does not require complex technology to implement (Goldie et al, 2010). The benefits also apply to child health: in LMICs contraception ensures greater birth spacing between successive pregnancies, which is important as the risk of low birth weight doubles when conception occurs within six months of a previous birth (Rutstein, 2008). A study in Bangladesh showed that under-5 mortality of children born to women aged 35-54 was 30% lower in villages with a FP programme compared to control areas without one (Joshi & Schultz, 2007).

Access to reproductive health and family planning services can also lead to the economic empowerment of women. When women are able to control when they become pregnant, they have more time to access education and participate in the labour market (Canning & Schultz, 2012).
The results of these aforementioned studies contribute to the international consensus that individuals and couples should have informed and voluntary choice and access to contextually appropriate contraceptives.

While large reductions in unmet need have been made worldwide, in some contexts FP uptake has not always led to decreases in MMR. In Kenya, an increase in modern contraceptive use from 17.9% (in 1989) to 39.4% (in 2009) in married women was not accompanied by a decrease in MMR, which grew by 38% from 380 to 530 per 100,000 live births between 1990 and 2008 (1989 and 2008-9 Kenya DHS; WHO, 2015a). It is likely that other factors besides FP influence maternal health outcomes, including the coverage of skilled birth attendance, availability of public health and obstetric services, out of pocket payments for health care and HIV/AIDS (responsible for 9% of all maternal deaths in 2008 (WHO, 2010)). Furthermore, an increase in contraceptive use does not give any indication as to the demographic groups in which uptake has occurred. Unmet need for contraception is concentrated among women from the poorest households with less education and living in rural areas (Singh et al., 2014). These women also show greater parity and are therefore at increased risk of obstetric complications and mortality. In Kenya, between 1979 and 1998, a national campaign to increase contraceptive supply and information on FP succeeded in lowering the national total fertility rate (TFR) from 7.2 to 4.8 (Ajayi & Kekovole, 1998). However from 1998 the poorest groups in the country experienced growth in TFR, largely due to diversion of resources away from FP towards HIV/AIDS; Annual funding from USAID increased from $2 million in 1995 to $108 million in 2006, while FP funding dropped
from $12 million to $8.9 million, adversely affecting access to contraceptives (Cleland et al., 2006).

**Men as barriers to meeting unmet need for FP**

A range of supply and demand-side barriers must be overcome to address the unmet need for FP. These include a lack of access to contraceptive supplies and services, fears of side-effects, beliefs about infecundity, partner and familial opposition to contraception and the lack of education and empowerment of women (Singh et al., 2014).

A literature review examining reasons for non-use of contraception among women with an unmet need for FP found that 25% of women in Africa state that they, their partner or close relation is opposed to the use of contraception (Sedgh & Hussain, 2014). In Kenya, 10% of women gave partner opposition as a reason for discontinuation with contraceptive use (Sedgh et al., 2007). A study into gender attitudes and fertility aspirations among young men in East African countries with high fertility found that women’s fertility preferences are strongly influenced by their husbands’ desire to have many children (Snow et al., 2013). This is supported by qualitative research in rural Uganda, which found that men wanted large families uninhibited by birth spacing (Kabagenyi et al., 2014). Other factors behind men’s low approval of and participation in FP included fears of side-effects and partner infidelity, and the perception that reproductive health is a female domain. Also in Uganda, a study by Mugisha & Reynolds (2008) found that women were secretly using contraceptive methods against
their husbands’ will, and that lack of male participation remained a key social factor affecting the uptake of FP services.

In West Pokot County, Kenya, men and women highlighted low male involvement in FP as the major obstacle to the uptake of FP services (DSW, 2014). Use of condoms was unpopular among men, who saw them as indicating distrust in their wife, while a vasectomy was perceived to make participants lesser men. These findings are supported by research in Western Kenya investigating men’s perspectives on their role in FP. Focus group discussions with 106 married men aged 20-66 indicated that their disapproval of contraceptive use was largely due to concerns about losing their male identity and anxiety about infidelity among their wives (Withers et al., 2015). An evaluation report of Amref Health’s 2014 ‘strengthening community health systems’ project highlighted resistance towards FP among men in Samburu County, Kenya. Men feared their wives would never deliver again if they started using contraceptive methods, and this was described as a concern since having many children was a sign of wealth in the community. These reports recommended greater male education and sensitisation on the importance of FP, arguing that FP programmes which solely focus on women compound the lack of acceptance among men.
Population health and environment programmes: principals and evidence of impact

Population Health Environment (PHE) programmes are thought to increase male involvement in FP initiatives. PHE programmes are cross-sectoral development initiatives that integrate environmental conservation, health and FP interventions. Population growth is a key factor driving environmental degradation (Miller et al., 2010), which itself has negative impacts for local populations by undermining household economies and food security via phenomena such land exhaustion and drought (Gonsalves et al., 2015). PHE strategies address natural resource use, food security and reproductive health as connected issues all affected by family size: by reducing population pressures on the environment, ecosystem and human health are improved (Mohan & Shellard, 2014; Gaffkin & Kalema-Zikusoka, 2010). UNEP’s integrated ecosystem assessment in Southern Rwanda (2007) concluded that population growth and poverty were driving environmental degradation and reductions in natural resource availability, which were negatively affecting the health of local communities. Evaluation of WWF-sponsored PHE initiatives worldwide concluded that in order to create demand for FP and environmental conservation, programmes must demonstrate improvements in the livelihoods of local populations (Lopez-Carr, 2013).

In Saadani National Park, Tanzania, a situational analysis investigated the local population’s views on the link between family size and the environment. Among 60 households spread between six villages, 33% of respondents thought that food insecurity was linked to high human population and low numbers of fish, which was
their main source of income. 79% believed that absence of FP could cause resource scarceness in the future (Torell et al., 2012). Interestingly, while people thought that population growth threatened the availability of natural resources, few perceived overpopulation as a cause of environmental degradation. Local insights such as this can be used to guide implementation of future PHE programmes. Similar attitudes have been reported by the TACARE project around Gombe National Park in Tanzania, where large families are favoured due to the greater agricultural and fishing labour they provide (Mavanza & Grossman, 2007).

Combining health and environmental messages has the potential to reach a wider audience than single sector interventions, and the evidence from PHE programmes globally indicates that the strategy can improve men’s support for FP (De Souza, 2014; Yavinsky et al., 2015). The organisation Blue Ventures in Velondriake, coastal Madagascar, reported that after linking FP and family size with marine environmental resource management and food security, men became more engaged in reproductive health issues (Harris et al., 2012; Mohan & Shellard, 2014). The Ethiopian Guraghe People’s Self Help Development Organisation reports that PHE programmes develop greater male acceptance and involvement in FP (Yavinsky et al., 2015). In PHE sites, 30.2% of men supported contraceptive use compared to 7.3% in RH only sites, a statistically significant difference. Also in Ethiopia, the Ethio-Wetlands and Natural Resources Association delivers FP information to male farmers through the inclusion of environmental and livelihood themes. Gonsalves et al.’s (2015) qualitative case study found that this approach elicited greater acceptance among those who are traditionally
against FP. In rural areas where economic security and livelihood is tied to the land, a participatory environmental sensitisation and rehabilitation approach combined with FP provision can help overcome community-level barriers in the community to voluntary FP utilisation (Gonsalves et al., 2015; Pielemeier, 2005). USAID’s Rwandan SPREAD project, an integrated community health programme for coffee farm workers, found that educating the community about FP use lead to greater understanding of the important economic benefits of FP, ultimately contributing to a favourable change in men’s attitudes towards FP (Kitzanides, 2010).

Evidence for the benefits of PHE programmes to improve FP outcomes is found in numerous contexts. In 23 of the 35 PHE projects reviewed by Yavinsky et al., (2015), increases in FP use were reported. In Blue Ventures’ Malagasy PHE project, integrating health services with conservation activities provided an opportunity to communicate resource management issues such as over-fishing with women from outside the marine conservation area who visited the reproductive health clinics (Mohan and Shellard, 2014). In unpublished data, Mohan et al.’s 2013 case study found an increase in CPR among the community from 10% when the programme began in 2007 to 55% in 2013 (Yavinsky et al., 2015). Although this observational case study did not adjust for potential confounding variables that may have stimulated CPR increase, the results are nonetheless striking. Robson & Rakotozafy (2015) estimate that contraceptive provision in this Malagasy community has prevented 800 unwanted pregnancies since 2007. Harris et al., (2012) estimated that such provision prevented 88 unsafe abortions in the community between 2007-2010, with couple-years of protection (CYP) rising
from 39.5 years to 464 years over the same period. Furthermore, among WWF-sponsored PHE projects in Asia and Africa; CPR increased considerably in Kenya’s Kiunga district, Madagascar’s Spiny Forest, Nepal’s Khata region and in Roxas district, Philippines (Lopez-Carr, 2013; Hahn et al., 2011). Results also indicated long-term effects of PHE FP programmes on fertility and reproductive health, showing a decline in birth rates.

Kleinau et al’s (2005) quasi-experimental design study conducted in the forest corridors of Madagascar, measured the impact of a PHE programme that focused on food security and livelihood as a means to encourage engagement in FP and natural resource management. A baseline survey was conducted prior to programme implementation, along with a follow-up survey three years later. Comparing PHE integrated communities with non-integrated control groups the study found that there was a significant increase in the CPR from 11.7% in 2001 to 16.8% in 2005 in the PHE integrated area. However several limitations affected the internal validity of this study. The PHE integration groups were three and four times larger than the non-PHE groups at baseline in 2001 and follow-up in 2004 respectively, which made comparisons challenging. It is also possible that the results might have been influenced by social desirability bias, as there was no blinding of the intervention participants, and families in the PHE areas might have been more likely to report favourable behaviours. Importantly, the study could not prevent crossover of contraceptives between the PHE and non-PHE groups, which may have contributed to an underestimation of the impact of the programme.
A similar experimental design was used in Palawan, the Philippines to test whether an integrated coastal resource management and reproductive health (CRM+RH) PHE programme would deliver significant improvements in both CRM and RH outcomes compared to single sector interventions that focused on CRM or RH alone (D’Agnes et al., 2010). Between 2001 and 2007, the use of contraceptives in young men and women living in the CRM+RH group increased more than in the RH only group. The CRM+RH programme showed significantly greater impact on five out of nine food security and reproductive health indicators, while performing to the same standard with the remaining indicators. Pollnac and Dacanay’s 2011 retrospective cohort study, which randomly selected 34 PHE-integrated villages and 18 non-PHE villages in the Visayas region of the Philippines, found a statistically significant difference where women from community-PHE programme sites had greater knowledge about contraceptives than those in non-PHE control villages. Furthermore, unpublished results from a case study comparing a health only programme with a PHE initiative in Guaranda, Ecuador (1993), revealed an increase in FP knowledge from 35% to 78%, among women in the integrated programme community, and an increased in contraceptive use from 12% to 41% (De Vargas, 1999). Contraceptive use in a community receiving a health only programme remained at 25%.

In a comparative cross-sectional study conducted by Sinaga et al., (2015) in Southern Ethiopia, the CPR of a PHE study group was 78% compared with 52% in the non-PHE group, a statistically significant difference. Women in the PHE-group were four times more likely to use contraceptives compared with women in the non-PHE group. The
study also indicated that women with husbands who supported FP utilization were 17 times more likely to use contraceptives, highlighting how important men’s participation remains in the decision-making process.

**Family planning and population health in the Kenyan context**

Despite Kenya being the first country in Africa to adopt a national FP initiative (Thaxton, 2007), the mid 1990s saw FP lose much of its funding and commitment from both the government of Kenya and donor bodies, undoubtedly contributing to the stalling of the then declining fertility rate (Bongaarts, 2014).

The Kenyan government has implemented several FP and reproductive health strategies recently. Key strategies include the 2007 National Reproductive Health Policy, the National Reproductive Health Strategy (2009-2015), the Population Policy for National Development (2012-2030) and the Costed Implementation Plan for Family Planning (2012-2016). While these initiatives have contributed to increases in the national CPR (27% in 1989 up to 58% in 2014 DHS), changes in health system governance have complicated service delivery at the local level. The national health system was decentralised in 2013, moving healthcare decision-making and delivery to the county level. Maintaining focus on FP during decentralisation has been difficult owing to competing county health priorities: only six out of 47 counties had FP budgets in 2015 (DSW, 2014; Fleischman and Peck, 2015). FP service provision therefore remains at the national level, with NGOs acting in contexts where it is lacking. For instance the Kenyan Ministry of Health and WWF have joined forces to deliver a
PHE programme around the Kiunga Marine Reserve, where its health component has increased community participation in FP and conservation activities (Lopez-Carr, 2013). Furthermore, the European Union and Amref Health Africa, in partnership with the Kenyan Ministry of Health and a local NGO implemented a four-year project in Samburu County to strengthen community health systems by addressing social disparities in maternal, newborn and child health, nutrition and family planning. The lack of health services, poor road access and remoteness of Samburu County remain major challenges in the supply of health services to its population.

The Community Health Africa Trust (CHAT) is a local NGO that delivers mobile health clinics to remote and underserved communities in Kenya. One such community is the pastoral Samburu tribe who live in and around Samburu County in northern Kenya, with a population of approximately 150,000 (Samburu County Government, 2016). Using provision of medical care as an entry point into the Samburu community, one of CHAT’s main focuses is a holistic PHE FP initiative, which provides contraceptives and seeks to communicate the links between family size and the environment. CHAT’s PHE programme is thought to improve both maternal and child health while reducing population pressures on the environment, conserving wildlife and other key livestock resources in the region such as water and grazing lands. Similarly in southern Ethiopia, population pressures, high temperature and drought-induced grazing land degradation and food insecurity is forcing pastoral communities in the Oromia region to change their way of life in order to survive. Like the Samburu, attitudes in this region have traditionally been against FP due to the perception that large families are an asset for
pastoral labour; however Kidanu et al., (2009) reported that these attitudes are changing. Participants in this cross-sectional qualitative study indicated that smaller families can better cope with the environmentally related challenges in the region, and that population growth was a key driver of deforestation and resulting climate change.

Samburu County has one of the highest TFRs in Kenya at 6.3 (DHS, 2014) and a MMR of 472 deaths per 100,000 live births (UNFPA, 2014). Other data collected in Samburu estimate that 29% of deliveries are carried out by a skilled birth attendant, 24.5% occur in a health facility and the contraceptive prevalence rate (modern methods) is 20% (DHS, 2014). The unmet need for FP has been estimated at 50% (ADHRC, 2015). The high fertility rate along with the grazing requirements of Samburu livestock in a resource-scarce region put stress on the health of the environment and the community. Due to culturally constructed gender roles in Samburu society, women are thought to be more vulnerable to the environmental hazards that occur in the region such as flooding and drought. Women have described themselves as being at increased vulnerability to dangers during long trips to find water during droughts, which adversely affected their ability to care for children at home (Ongoro and Ogara, 2012). During floods, their responsibility to move their home and families is also thought to place them in harm’s way.

Samburu society has been described as a patriarchal gerontocracy. An ethnography carried out by Paul Spencer highlighted that older men hold political and marital influence over women and younger men (Spencer, 1965). Although not universally,
older men are known to practice polygyny, marrying women from the age of fifteen and sometimes younger, while circumcised ‘moran’ usually under the age of thirty are largely prevented from marrying for 15 years and spend the majority of their time away from the community. Spencer has argued that the desire for large families stems from the need to ensure that family livestock, which are central to the Samburu’s pastoral economy, are maintained. In addition to this, having more children is seen as insurance for the care of elders in the family.

The PHE Literature

One limitation of the PHE research and programme evaluation literature is that results are inherently context-specific and are therefore not always generalisable. There is environmental variation between different locations but also often variation in the beliefs, cultures and livelihoods of the human communities that inhabit them. However as Ben Ramalingham (2013) argues, a generalised, prescriptive approach can have negative consequences for development projects. Accepting the complexity of a situation ensures relevant and specific responses; the challenge is that such an approach requires multiple research methods and widespread community participation.

The PHE field has had very few academic articles published that concern programme results, with the majority of literature consisting of programme evaluations by organisations funding the projects. These case studies are useful in their specific settings, but a lack of adequate research methodology, which includes appropriate
controls and adjustment for confounding, limits their external validity. However because PHE projects are implemented in specific settings and rarely carried out on a large scale, improving study validity through randomisation has not always been a possibility.

Furthermore, PHE programmes exist in complex systems in which impacts of the intervention are seen at different times and often longer than project evaluations can ordinarily afford. The effects of FP on family size will only become evident in a generation, while the effect of FP initiatives on the environment may also take years to become clear. Since many of the programmes described are in relative infancy, it will take time to produce sufficient evidence on their outcomes. However certain health indicators related to PHE projects, such as those for maternal, reproductive and child health can be measured at an earlier stage.

In order to bridge the evidence gap for PHE programme effectiveness, methods should include quantitative, mixed and qualitative methods. Qualitative methods are an important tool to understand project effectiveness, since the perspectives of the recipient community are fundamental for interventions that require their participation. Studies that demonstrate effectiveness of PHE programmes are necessary to support their use as a tool in the global health, development and conservation sectors.

Bremner et al, (2011) argue that there has been an overly simplistic portrayal of the interrelationships between poverty, population growth and environmental degradation,
and that context must be considered in isolation to understand what the barriers and facilitators are to successful and community acceptable PHE programmes. Therefore understanding the local systems and beliefs among communities is vital in order to strengthen the planning and development of PHE initiatives. Among the Samburu in Kenya, it is known that there is often male opposition to FP. However, since CHAT reports a more positive reception of FP through ‘ecological sensitisation’, it is important that this is formally investigated to inform future programme implementation.

**Value of Study**

Limited evidence exists on effective methods to increase male involvement in FP in SSA, and few studies have sought to specifically understand male perspectives on FP through PHE programmes; none have done so in the Samburu context. It is therefore important to investigate perspectives in the Samburu community. The study presented an opportunity for men to voice their attitudes and opinions on FP in general and on the link between family size and environment. More research is needed on the social conditions and attitudes that shape Samburu male fertility ideals, which may be more dynamic than the cultural assumptions that are made about their fixed position. Qualitative data has an important place in development studies, since narratives produced reflect how ‘the developing’ position themselves with respect to the power dynamics that arise from interventions, allowing identification of social barriers to programme success (Carr, 2010).
**Study objective**

To investigate the thoughts of Samburu men on a PHE FP programme that relates family size to the environment.

**Primary research question**

What do men in the Samburu tribe think about family planning programmes that relate family size to the environment?

**Subsidiary research questions**

What are men’s opinions on family and family size?

How do Samburu men view their relationship with the environment?

What do men think about wildlife conservation and its relationship with family size?
Methodology

I used purposive quota sampling to recruit 27 Samburu men. I then conducted nine semi-structured interviews and three focus group discussions (FGDs) with these men in May 2016. Assisting with data collection was a research assistant (a 22 year old Samburu man from a different part of the County) and two women who work as FOCORPs for CHAT. We used a flexible topic guide to focus on participants’ thoughts on family planning, family size and the environment. Broad introductory questions engaged participants with the topics before more using specific questions and probes to gain further insight into their thoughts. FGDs were appropriate for this study because they allow for an exploration of social consensus and the opportunity to debate controversial issues through discussion. Through the use of both SSIs and FGDs I was able to triangulate findings. All SSIs and FGDs were conducted in the local Samburu language ‘Maa’.

Study setting

The research took place in five Samburu pastoral communities in the East of the County. The Samburu face several major barriers to accessing health services. The first is remoteness: villages included in this study were located between 15-50 km to the nearest health facility, and the Samburu travel across difficult terrain to access it. Some health services also cost money, and some families were too poor to afford them. To address these barriers, CHAT staff travel by whatever means necessary to deliver
health and FP services to these underserved communities, including by car, camelback or foot. CHAT delivers its FP strategy through the employment of FPCORPs, who help to ensure community acceptance of the programme, considering the existence of traditional and familial opposition to FP.

Study participants

Twenty-seven men (all previously engaged with CHAT’s PHE programme) were recruited from the Lodungokwe, Lengei and Lolua communities and the livestock markets at Lengusaka and Lolkuniani. I stratified participants across three age groups to ensure a wide age range was represented and because during FGDs, men (particularly those aged 18-30) would be more comfortable discussing issues within their own peer group. Had discussions included a mixture of generations, there might have been a risk of younger men’s opinions being strongly influenced by dominating elders. Men age 18-30 represented the ‘Moran’, the warrior generation that begins at circumcision and lasts for approximately 15 years. During this time a Moran is unable to marry and often lives away from home, carrying out important security and livestock management duties for his community. Men age 30-45 represented the younger generation of elders who had completed their time as moran and had married, returning to their homes. The final age category was 45 and over, representing the older generation of elders. While I had intended to conduct more interviews, due to practical difficulties in arranging meetings with men that were busy with other community responsibilities, the FP CORPs advised that in combination with three FGDs, nine SSIs would be a realistic number. In any case, I believe that I attained data
saturation; since little new information was elucidated by the time I had interviewed twenty-seven participants.

Table 1: Participant demographics

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Ethics

I received ethical approval from the UCL ethics committee and the Kenyan National Commission for Science and Technology, who granted me with a research permit to complete this project. I was affiliated with the Kenyan Medical Research Institute.

Any personal health concerns of participants would have been passed on to CHAT and the most appropriate health facility, however no such issues were raised.
Data collected were anonymised during transcription and stored on a password-protected computer; all recordings were deleted following transcription.

**Participant recruitment**

Upon arrival in Samburu, I met with my research assistant and the FPCORPs to discuss participant recruitment. One FPCORP informed men of my research project, mobilising them in advance. A major challenge in recruiting Samburu men was that they were often out grazing their herds of livestock, and therefore unable to take part in potentially time-consuming qualitative research. Therefore all of the study sites were purposively chosen according to when men of the required age group were available to take part.

The FP CORPs arranged Lodungokwe village to be the site for the FGD and interviews with men in the 18-30 group, Lolua for the 30-45 FGD and Lengei for the 45+ FGD. SSIs with men of the 30-45 and 45+ groups were arranged at the Lengusaka and Lolkuniani livestock markets respectively. All participants were provided with information and consent forms written in English, which were read and translated into Maa for them as necessary. For the men who could not write, consent forms were signed using a thumbprint.
Data collection

The FGDs at Lodungokwe, Lengei and Lolua, and the SSIs at Lolkuinani and Lodungokwe took place at a time and place of the participants choosing, usually mid-morning under an Acacia tree at the edge of the village. At Lengusaka I met participants in the chief’s office next to the cattle market. I greeted all participants in the traditional Samburu manner and introduced myself as an independent researcher.

Because I am not fluent in Maa, a research assistant facilitated all SSIs and FGDs. He was selected for this role because he was fluent in English, Maa and Swahili, had previous research experience, and because being a Samburu himself, he was familiar with the context and issues discussed, and understood the important cultural and emotional meanings in men’s answers.

Translating a foreign language into English without losing any important cultural nuances is a challenge for qualitative research. Van Nes et al (2010) highlight how translation of quotations in qualitative research can be difficult, since there may be no clear translation for some emic terms used by participants. While there may be no suitable word to describe some cultural meanings, using more words than the original quote however, can change the ‘voice’ of the participant; this is problematic since giving people a voice is a fundamental goal of qualitative research (Denzin and Lincoln, 2011).

I spent time discussing the topic guide and how it would be translated with him before
commencing data collection; Specific emphasis was placed on keeping the questions open, allowing the participants to answer in the same manner. SSI responses were simultaneously translated so that I was able to probe specific areas and make detailed notes. This was time-consuming but allowed greater engagement on my part, and enabled the research assistant to note how I probed specific topics. This was important because I allowed him to facilitate the FGDs with limited input from myself. This decision was taken so as not to disrupt the flow of discussion. Also present at the SSIs and FGDs were the two FPCORPs. Without their presence as trusted members of the community I would not have been able to conduct data collection. Through experience, the Samburu are fearful of exploitation and will not engage with research projects unless there is transparency about the intended outcomes. Because I was linked CHAT, the strong relationship that the NGO has with the communities was fundamental to their willingness to discuss and voice their opinions. Due to a lack of time, back-translation of transcripts was not completed, which would have verified the accuracy of translations.

**Analysis**

After translation and manual transcription of the data, the transcripts were uploaded onto the qualitative analysis software package NVivo 11. I used thematic analysis (Braun and Clarke, 2011), due to its flexibility as a method. I read the data frequently and carried out progressive low-level coding, which produced 46 codes related the topics investigated (figure 1). Further thematic analysis generated key themes (figure 2) I made a concerted effort to check for men who had different opinions to the rest of the cohort, and placed them within the greater framework of themes being developed.
Figure 1: Initial codes and themes
Results

Through high-level coding and analysis, I identified key themes that reflected men’s thoughts of and around CHAT’s family planning programme (figure 2). It became clear that men’s thoughts on the relationship between family size and the environment could not be described without incorporating themes related to Samburu culture, economics and livelihood.

Three main themes, described in Figure 2, explained how Samburu men’s thoughts on family size and the environment are closely linked to Samburu culture and factors related to economics and livelihood.
The environment and Samburu culture

Migration-land exhaustion cycle

Men recognised that a traditional Samburu aspiration of having large families was a key factor behind the exhaustion of environmental resources. They universally supported the environmental education that the FP programme delivers.

*It is good to educate about FP through the environment and resource availability. If we continue to produce large families we will exhaust the grasses and water we have in Samburu, and be forced to migrate to new places. Our livestock, which we are entirely dependent upon cannot survive on bare land.* SSI-03 (45+)

This migration and land exhaustion cycle was often cited as a common practice among large family groups.

*Larger families require the cutting down high numbers trees to build a settlement. We cut them down, and then when we are faced with a drought, we move and once again cut down more trees to settle. This cycle repeats itself.* SSI-02 (30-45)

Livestock Management

Men acknowledged that much of the environmental degradation and resource exhaustion due to large families was related to the traditional aspiration for, and dependence on, large herds of livestock.
With larger families there are more livestock, so grasslands are exhausted and there is nowhere to feed them. M6 FGD (18-30)

Reducing livestock numbers was seen as a strategy to better manage available resources.

Families cannot survive without a healthy environment. Reducing families and the size of our livestock herds will slow down land degradation and allow us to better use our resources. SSI-02 (30-45)

Environmental change
The older men interviewed highlighted how the environment had changed over their lifetime. They said that it was healthier in the past and that their lives were harder today due to frequent drought. Men aged 18-30 believed that unpredictable rainfall patterns were a consequence of human activity. Deforestation was mentioned on several occasions in relation to family size.

Large families cause destruction. We have to run to other places to seek pastures, and it because of our people cutting trees. The trees bring rain. Tree cutting is widespread now and they are not just cutting dry dead trees but green trees too. M2 FGD (18-30)

Family size compromise
The benefits of large families were frequently cited, but most men believed that in the current environmental context, where natural resources were scarce it was better to compromise and support smaller families.
In recent years it has been difficult to care for large families because life has become very hard. When you have four wives and you have 500 shillings, it will not be enough for all of them and our children. Large families are good if you have enough resources to provide for them, but at the moment this is hard. Smaller families are good because you can look after them. M3 FGD (45+)

Not all men saw reducing their livestock herds as an option, despite acknowledging the effect that large families have on the environment.

*Large families lead to practices such as poaching and the exhaustion of the land. But I do not support the reduction in our livestock. Because if we lose our livestock then how will we survive? We depend almost entirely upon them. This land cannot be used for anything else.* SSI-01 (45+)

One elder argued that because of the vast stretches of land available to the Samburu tribe relative to their small numbers, they should continue to populate the region. He therefore opposed the use of FP.

*We Samburu are very few but we have a lot of land. Other tribes have filled their regions and they are coming to our land now. Because of this I think that we don’t need FP. If we restrict our size now, while we are still few, what will be our situation in the future? Other tribes who have filled their lands should be using FP, but we should not because we have not filled our lands.* M2 FGD (45+)
The environment, economics and livelihoods

Natural resource dependency

All men discussed natural resource dependency, and how their way of life is closely tied to the availability of natural resources.

*I depend on the environment. It provides me with resources like timber for building and trees provide shelter. Water and trees are the most important resources. The dried part of trees can be used for firewood and fencing, and the trees bring rain. There is also sand and grass. Sand is used for building houses grasses feed our livestock.* SSI-02 (18-30)

Environmental economy

The economic value of the environment was mentioned regularly. Natural resources provide a form of income either directly through sale or indirectly through maintenance of livestock that are then sold at market.

*We get lots of benefits from the environment. These acacia trees are food for our livestock during drought. People travel from far away to buy our sand and rocks.* SSI-03 (45+)

*Livestock are important, they are our farms. We sell them to buy food and fund other activities.* M6 FGD (30-45)
Conservation

Men highlighted the economic benefits of the community wildlife conservancies coordinated by NRT, which were said to have increased employment and also brought income and educational bursaries to the community through increased wildlife tourism. Smaller families were understood to be better for wildlife conservation, which itself has economic value.

*We have a good relationship with wildlife, and conservation is a useful practice here. They help educate our children and people in our community are finding employment with the conservancies.* SSI-03 45+

Wildlife conflict

Men highlighted that large families and their livestock herds cannot coexist peacefully with wildlife. Conflict with wildlife remains a constant problem for the pastoral Samburu, and strains their relationship with conservancies.

*We have conflict with wildlife when we have larger families. We need to enter the conservancies to look for pastures during drought. Morans have fought with conservancies in the past because they think that they are taking their grazing lands. The conservancies do not want our livestock to enter protected land.* M1 FGD (18-30)

*Large families interfere with wildlife and conservation. Wildlife cannot survive in overpopulated places. They are disturbed and attack people and livestock.* M5 FGD (45+)
The economic benefit of conservation is undermined when conflict occurs through wildlife attacking and killing valuable livestock.

There are conflicts with hyenas and wild dogs that attack our goats. I have to attack these animals to protect my livestock. Elephants scare our livestock, so they don’t feed near the elephants. We have to wait for them to leave. If they don’t leave then you have to attack them so that they are scared and run away. M4 FGD (18-30)

Samburu culture, economics and livelihood

Culture and tradition

Men spoke of the traditional Samburu association between family size and wealth, and how because of this, giving birth to boys remains an important cultural aspiration.

With larger families, there is greater continuation of a bloodline. The sixth generation from our birth passed a long time ago but we know their descendants. If a woman does not provide any boys, then a man will have to marry another woman who can provide him with boys so that he can continue his bloodline. When a large family becomes successful, with the children finding employment, then parents benefit. M5 FGD (45+)
It was frequently stated that a major benefit of having a large family was that family labour could be divided amongst the children.

*Larger families are good though because they allow division of labour.*

*Some children can go to school and the others can stay to care for livestock.* M5 FGD 18-30

However, some men believed that such traditions should change, and that communities in which they are common are poorer.

*I don’t think that it is right for people to have large families with many wives now, because it leads to poverty in the community. We should stop practicing polygyny.* People shouldn’t have lots of kids and not be able to look after them, that is shameful for a man. SSI-01 (30-45)

Men thought that there remained many Samburu who held on to traditional desires for large families and multiple wives. Men wished that FP education would reach these communities so that they could learn the environmental and economic benefits of having smaller families.

**Education**

It was mentioned that in the past, the Samburu did not value education but that nowadays it is seen as a means to gain employment and better provide for your family.

*We now understand that there are changes that we have to make in order to succeed as a community. Now that we have education here, we are*
able to allow children to benefit from it. In the past we used to think that sending them to school would make them more foolish. M2 FGD (45+)

Individuals across all age groups believed that having large families conflicted with their desire to educate their children.

If god gives you a very clever child, and you take him/her to school, but you take them out of school because due to having a large family you cannot afford the fees, that is not good. M2 FGD (45+)

Maternal and child health

Men saw health improve among women (and their children) who were able to control and space their births through the use of contraceptives provided by CHAT.

Women who looked old because of giving birth frequently, look young again when she takes contraceptives and stops giving birth. Their children are healthier, since their mothers can focus on looking after one child at a time. There are far fewer or no more cases of mothers dying during childbirth. M5 FGD (30-45)

The overall consensus was that birth spacing was one of the programme’s benefits, because it allowed mothers to recover after giving birth and focus on caring for their newborn, before giving birth again. However ceasing to give birth permanently was rarely discussed as the purpose of FP.
When a woman gives birth, using contraceptives allows the child to grow before another is born, and it allows time for a woman’s womb to heal. Women have more energy then to have another child. M3 FGD (30-45)

Marital trust and patriarchy

Marital relationships were said to come under strain when women had different fertility desires to their husbands, leading to them taking contraceptives in secret.

Sometimes contraceptives can cause a bad relationship if a women goes secretly. I will be upset, she is not married to the doctor, she is married to me. Why does she go to the doctor without telling me? Before she goes for FP she should tell me. M2 FGD (18-30)

Men disapproved of women taking contraceptives in secret as it undermined Samburu patriarchy and a husband’s family desires.

If he wants more children and she is taking contraceptives then it causes problems. When a wife tries to tell this to her husband, he does not approve, so she takes them secretly. This causes divorces. The husband will find a wife who will provide him with children.

SSI-03 (18-30)
Role of women

Thanks to education, the role of women was discussed as having changed considerably compared to the past. While they still hold significant domestic responsibilities in Samburu culture, women now support their families through the running of small businesses.

In the past women stayed at home and carried out work in the manyatta. But now they are more educated, and some of them have started businesses. Their roles have changed because you now find women providing. SSI-02 (18-30)

Elders recognised that if a woman has several children to look after, then she is unable to provide for her family through these new enterprises.

Now women are providing, they have businesses. But if she has many small children, it will prevent her from doing these things. So we should allow women to use contraceptives. M2 FGD (45+)

Diversifying income streams

Women’s economic empowerment is part of the diversification of income streams that men welcomed. A shift to smaller families through FP was discussed as contributing to this new perspective.

It is good to mix businesses with livestock. When the livestock are away with the morans, then you can provide for yourself and medicine for the animals. M1 FGD (18-30)
Discussion

All men interviewed were supportive of CHAT’s FP programme, and they wished that they visited more often. In agreement with other literature on PHE programmes (Mohan and Shellard 2014; Torell et al., 2012; Pielemeier, 2005; Gonsalves et al., 2015), relating family size to resource availability is a compelling strategy to increase FP uptake considering the dependence that the Samburu have on key resources such as water and trees. Along with provision of contraceptives, the educational aspect of the programme fits well with the participants’ universal support for education in their communities.

Importantly, following ADHRC’s (2016) recommendations for increased sensitisation of Samburu men to FP in order to improve uptake, CHATs PHE programme presents an example of how this can be achieved. This sensitisation is particularly important in patriarchal Samburu families, where men were against their wives using contraceptives without their approval, seeing themselves as the key decision makers on family size.

All men recognised that the Samburu traditional pastoral livelihood is entirely dependent on natural resources, and almost universally acknowledged the environmental and livelihood benefits of having smaller families. Eight of the nine elders older than 45 (of whom six had more than five children), highlighted that because today ‘life is hard’ it is difficult to provide for large families. A key finding was that although most men ultimately favoured large families, they recognised that a compromise of
smaller family size should be made in the current context of limited natural resource availability; their increasingly degraded environment could not sustain large families as it had in the past. This reveals that the fertility ideals of Samburu men are more dynamic than previous cultural assumptions. They understood that having fewer children reduced pressure on parents and ultimately allowed them to support their families with fewer livestock which they could better care for during periods of drought. Having many children and being dependent on large herds of livestock was known to make families more vulnerable during drought, since with few other options, livestock mortality majorly affects the ability of parents to ensure the health and survival of their children.

Interestingly, while voicing this opinion of compromise for the Samburu in general, some participants did not intend to practice FP in their own home. The desire to have many children was closely tied to the idea that survival of the Samburu people is dependent on pastoralism and that the land was unfit for any other use. These findings agree with Kaye-Zwiebel and King (2014) who found varying perceptions among the Samburu on the adequacy of their grazing land, the economic sufficiency of livestock and the benefits of conservation. Men described the division of labour within large families for livestock management as a rational decision in the Samburu context. This mirrors Mvanza and Grossman’s (2007) findings in Tanzania that were related to fishing rather than pastoral labour: they found that people desired large families to help catch fish, which were their most important source of income and food. As highlighted by eight individuals, the traditional Samburu association of large families and livestock
herds with wealth and pride remained a compelling reason to have many children regardless of environmental conditions. This rationale remains a challenge for PHE initiatives, as it is difficult to elicit change in Samburu family desires while men view expansive livestock management as their most fundamental tradition and aspiration.

Men also aspired to protect their environment for economic reasons. Through the sale of natural resources and livestock, the environment provides income for the Samburu. Despite occasionally creating conflict through restricting access to traditional grazing land, wildlife conservation was stated to have created economic benefits for the community through employment and tourism, along with the provision of bursaries for children’s education. However, while large family groups migrate with numerous livestock, conflict with wildlife undermines any economic benefits from conservation. These findings support those of Kitzanides’ (2010) study: when men understand the economic and social value that a healthy environment brings to the community when it is not degraded from overpopulation, they become more supportive of FP.

In line with Canning & Schultz’s (2012) Bangladeshi study, smaller family size and access to education was seen to allow women to take on economic enterprises outside their traditional domestic role. Ahmed et al (2012) argued that FP could reduce MMR; although this particular assertion is impossible to verify in this qualitative study, men described how maternal death had reduced after access to FP, and that greater birth spacing made women visibly healthier. Men also thought that child health had improved, since mothers did not have to feed and care for several young children at
once. The new income streams provided by healthy women that start up small businesses marks an evolution of Samburu family dynamics. Faced with both environmental and economic pressures, men indicated the tribes’ transition towards a more fragmented livelihood, combining traditional livestock management with income generated from conservation, employment following attainment of education, and the aforementioned development of businesses by women. This supports work by Kaye-Zwiebel and King (2014), Catley et al., (2013) and Galvin (2008) who argued that the Samburu were transitioning to a more diversified economic strategy including agro-pastoralism, mixed rangeland and wildlife conservation and urban migration for salaried-labour in order to cope in an increasingly market based economy. Because family size is closely linked with all of these factors, (children are often required for livestock management, large families encourage wildlife conflict, education is more attainable for children of smaller families and women can enter into the economy if they are not burdened with several children) most men recognised that having smaller families was an appropriate strategy. This supports Kidanu et al.’s (2009) Ethiopian findings, where communities encouraged the use of FP because having fewer children, although against traditional aspirations, was a more sustainable strategy in their economic and environmental context.

Because CHAT’s PHE initiative is uniquely sensitised to the Samburu livelihood, it plays an important role in educating the community about the relationship between family size and the environment in a region that is experiencing frequent environmental stress. A challenge remains in reaching the remote family groups in Samburu who have
not yet been reached by the PHE programme. Men described these communities as holding on to traditional desires for large families and substantial herds of livestock; driving environmental degradation through a resource exhaustion-migration cycle.

**Limitations**

Despite conscientious and detailed Maa to English interpretation by my research assistant, some cultural nuances may have been lost during transcription of the FGDs. Furthermore, due to time and resource constraints; I was not able to verify the accuracy of transcripts with another Maa-speaker.

Although I made it clear that I was an independent researcher, the fact that two FPCORPs who work for CHAT accompanied me during data collection created the possibility of social desirability bias: men could have given responses that they believed would please CHAT and lead the mobile clinic to visit more frequently. However, upon reflection on the data collected I do not believe this to be the case since men gave a range of rich individual opinions related to family size and the environment, most, but not all of which, supported family planning. This suggested that men felt able to express their views relatively openly. Furthermore, without accompaniment by the trusted FPCORPs, I would not have been granted access to the community.

The men included in this study are only those who have been exposed to CHAT’s PHE programme, and while the findings cannot be generalized to communities not exposed
to the FP programme, they give an indication as to how men would potentially receive it should expansion continue.

**Reflexivity**

I made regular entries in a reflexive journal, recording my methodological rational and reflecting on the participant responses and my own interpretation of their responses. I regularly discussed interpretations with my research assistant to develop both complementary and divergent understandings of the data collected. We were attentive to discrepant cases, where men offered opinions that were considerably different to the other responses, and I have reported these. While I endeavoured to ensure that I remained as objective as possible when designing the topic guide and conducting SSIs and FGDs with Samburu men, I cannot discount predispositions that I may have in support of CHAT’s PHE programme.

**Future research**

Since they are seen as major beneficiaries of this intervention, it would be useful to conduct a qualitative study that included Samburu women, giving them a voice on an intervention that directly affects them.

This qualitative study is not able to objectively assess whether CHATs PHE programme improves maternal and child health outcomes, or if it leads to improvements in natural resource availability and reduction in environmental degradation. Quantitative studies that compare them between PHE and non-PHE control groups that have not been
exposed to CHATs programme would be of benefit. CHAT has been recording clinical data from its mobile health clinics, which could be analysed to measure improvements in health since the programme began.

**Conclusion**

This study shows that CHAT’s unique approach, which relates to the Samburu tribes’ close relationship with the natural environment, is a tool to improve acceptance of FP among men in the Samburu community. The majority of participants highlighted that large families and herds of livestock can lead to wildlife loss, environmental degradation and unsustainable natural resource use. Because of this, and in combination with frequent and prolonged drought, (which some believed was being driven by deforestation by migrating family groups) men found it increasingly difficult to provide for their families. Because of these current circumstances, most men agreed that a compromise of smaller families should be made. However, despite voicing agreement towards reductions in family size in order to ensure sustainable use of natural resources, a small proportion of men didn’t intend to practice FP in their own homes. This finding highlights the challenges that remain for CHAT’s PHE programme in translating men’s verbal support for FP into practice.

Economics is a fundamental reason behind recognition of the benefits of smaller families. Men understood their environment to have monetary value, either through conservation for wildlife tourism and related educational bursaries, or in the
maintenance of livestock value. This finding supports previous studies that revealed economic incentives as an important driver of support for FP among men. The economic empowerment and improved health of women that were not burdened with many children was discussed as a major benefit of FP. These economic benefits of FP along with the environmental pressures highlighted by men may reflect a shift towards a more fragmented Samburu livelihood less dependent on pastoralism as in the past.

CHAT should continue to expand its mobile clinic and PHE programme, ensuring equitable distribution of services that will ultimately benefit human and environmental health. Furthermore, due to the access to and support from men delivered by the programme, Kenyan FP policy should integrate community-based PHE strategies among underserved pastoral groups living in fragile ecosystems.

[9,966 words]
References


Rutstein, S. O. 2008. Further evidence of the effects of preceding birth intervals on neonatal infant and under-five-years mortality and nutritional status in developing countries: Evidence from the Demographic and Health Surveys.


Studies in Family Planning, 46(2), 201–15.

5 February 2016

Dr Audrey Prost
Institute of Child Health
UCL

Dear Dr Prost

Notification of Ethical Approval

Project ID: 8323/001: What do men from the Samburu tribe, Kenya, think about family planning programmes that use ecological sensitisation?

I am pleased to confirm in my capacity as Chair of the UCL Research Ethics Committee (REC) that your study has been approved by the UCL REC for the duration of the project until September 2016.

Approval is subject to the following conditions:

1. You must seek Chair’s approval for proposed amendments to the research for which this approval has been given. Ethical approval is specific to this project and must not be treated as applicable to research of a similar nature. Each research project is reviewed separately and if there are significant changes to the research protocol you should seek confirmation of continued ethical approval by completing the ‘Amendment Approval Request Form’: http://ethics.grad.ucl.ac.uk/responsibilities.php

2. It is your responsibility to report to the Committee any unanticipated problems or adverse events involving risks to participants or others. The Ethics Committee should be notified of all serious adverse events via the Ethics Committee Administrator (ethics@ucl.ac.uk) immediately the incident occurs. Where the adverse incident is unexpected and serious, the Chair or Vice-Chair will decide whether the study should be terminated pending the opinion of an independent expert. The adverse event will be considered at the next Committee meeting and a decision will be made on the need to change the information leaflet and/or study protocol.

For non-serious adverse events the Chair or Vice-Chair of the Ethics Committee should again be notified via the Ethics Committee Administrator (ethics@ucl.ac.uk) within ten days of an adverse incident occurring and provide a full written report that should include any amendments to the participant information sheet and study protocol. The Chair or Vice-Chair will confirm that the incident is non-serious and report to the Committee at the next meeting. The final view of the Committee will be communicated to you.

On completion of the research you must submit a brief report of your findings/concluding comments to the Committee, which includes in particular issues relating to the ethical implications of the research.

Yours sincerely

Professor John Foreman
Chair of the UCL Research Ethics Committee
March 29th, 2016

Mr Loren Kock
University College London
Institute of Global Health
London WC1N 1EH

Dear Sir,

**RE: Loren Kock affiliation to KEMRI during his research project in Kenya, 2016**

This is to confirm that Loren Kock will be affiliated with my research group and myself during his research visit to Kenya this summer 2016. Loren is a Masters of Science student studying Global Health and Development at the University College London.

As part of his dissertation research, Loren will conduct a qualitative study among the Samburu to understand their thinking about family planning programmes that relate family size to the environment. Loren's proposal has gone through the ethical review process at the University College in London and received approval.

During his stay in Kenya, Loren will have access to my research team and myself and will receive guidance on the study design, data collection, analysis and interpretation of results. Kindly accord him the necessary assistance to allow him conduct the proposed research.

Kind regards,

Thumbi Mwangi, DVM, MSc, PhD

[Signature]

Infectious Disease Epidemiologist
One Health Research Group
Center for Global Health Research
Kenya Medical Research Institute
Email: sthumbi@kemricdc.org; thumbi.mwangi@wsu.edu
Application for inclusion of a research project

All sections must be completed before submitting this form to the data protection team.

All research projects using personal data must be registered with the UCL Data Protection Officer before the data is collected. This includes projects approved by the Joint Research Office.

It is rarely necessary to store electronic personal data on portable devices such as laptops, USB flash drives, portable hard drives, CDs, DVDs, or any computer not owned by UCL. Similarly, manual personal data should not be regularly removed from UCL premises. In the case of electronic data, to minimise the risk of loss or disclosure, a secure remote connection to UCL should be used wherever possible.

The UCL Computer Security Team has published guidance on the storage of sensitive data on portable devices and media which is available at http://www.ucl.ac.uk/informationsecurity/itsecurity/knowledgebase/securitybaselines/encryption/GuidanceStorageSensitiveData

If storing sensitive data on portable devices or media all data must be strongly encrypted. ADS general encryption guidance is available at http://www.ucl.ac.uk/isd/staff/ads/help/guides/encryption.

Manual personal data and portable electronic devices should be stored in locked units, and they should not be left on desks overnight or in view of third parties.

Anonymised data Projects using anonymised data do not have to be registered with the Data Protection Team and you do not have to worry about compliance with the Act.

Data is only truly anonymised if it is impossible to identify subjects from that information and, if relevant, any other information that UCL holds. For example, if you have a list of research subjects and anonymise it by giving each one a number, but keep a list of the numbers with the names of the subjects, the information has not been anonymised. In this case, it is personal data, and the project must be registered with the Data Protection Team.

Approval We may have some questions about the information you provide, but you will normally be provided with a registration number within a week of submitting the form. However, the period leading up to meetings of the Ethics Committee is always very busy, and you should allow more time for your application to be processed. It is therefore very important to check in good time whether you need to register your project.

Please note that Data Protection Registration numbers will NOT be issued when you submit an application form in person to the Data Protection Team.

Please submit this form electronically and send to data-protection@ucl.ac.uk with copies of any information sheets and consent forms that you are using.

UCL Data Protection website

http://www.ucl.ac.uk/finance/legal_services/data_protection/data_protection.php

Any queries regarding this form please contact 020 3108 3128 (internal extension 53128)

This form will be returned to you with the appropriate registration number, which you may quote on your Ethics Application Form, or any other related forms.
A. APPLICATION DETAILS

<table>
<thead>
<tr>
<th>A1</th>
<th>Project Title: What do men from the Samburu tribe, Kenya, think about family planning programmes that use ecological sensitisation?</th>
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<tr>
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<td>Date of Submission: 1/9/16</td>
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<td></td>
<td>UCL Ethics Project ID Number: 8323/001</td>
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<tr>
<th>A2</th>
<th>Principal Researcher (Please note that a student – undergraduate, postgraduate or research postgraduate cannot be the Principal Researcher for Ethics purposes).</th>
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<tbody>
<tr>
<td></td>
<td>Full Name: Dr. Audrey Prost</td>
</tr>
<tr>
<td></td>
<td>Position Held:</td>
</tr>
<tr>
<td></td>
<td>Address: Institute of Child Health UCL 30 Guilford Street, London WC1N 1EH</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:audrey.prost@ucl.ac.uk">audrey.prost@ucl.ac.uk</a></td>
</tr>
<tr>
<td></td>
<td>Telephone: 020 7905 2839</td>
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<tr>
<th>A3</th>
<th>Data Collector(s) Details (If Applicant is not the Principal Researcher e.g. student details):</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Full Name: Loren Kock</td>
</tr>
<tr>
<td></td>
<td>Position Held: Student</td>
</tr>
<tr>
<td></td>
<td>Address: 1 Bowmans Mews, London, E1 8RY</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:loren.kock.15@ucl.ac.uk">loren.kock.15@ucl.ac.uk</a></td>
</tr>
<tr>
<td></td>
<td>Telephone: 07427086294</td>
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B. DETAILS OF THE PROJECT

| B1 | Please provide a brief summary of the project                                                                                                       |
|    | The Community Health Africa Trust (CHAT) in Kenya has been carrying out a family planning program as part of its integrated mobile health services which aim to reach poor and excluded communities in Kenya, such as the Samburu tribe. CHAT have included a strong component of ecological sensitisation into their holistic family planning initiative, with the aim to reduce population pressures on the environment and improve the health of the polygamous semi-nomadic communities living there who often have large family sizes (fertility rate Samburu county is 6.3 (DHS Kenya 2014)) but limited resources to support them. Samburu county (where the majority of the Samburu tribe live) has a contraceptive use of 22.7% among married women age 15-49, compared to the Kenyan average of 58% (DHS, 2014). The percentage of currently married women and sexually active women age 15-49 in the Rift Valley region (the wider region which includes Samburu areas) is 20.8% compared to the Kenyan average of 17.5% (DHS, 2014). This qualitative project will investigate what the attitudes and opinions are of Samburu men on the... |
ecological sensitisation approach to family planning, since male acceptance of family planning is often a barrier to the success of such programs, which seek to empower women to become key decision makers in the family. The benefits of this project are to provide valuable information to CHAT about the views of men within the community, which could be used to guide future implementation of their family planning initiative. Furthermore, the study is intended to be of benefit to male members of the community themselves, since it provides an opportunity to deliver their opinions on the family planning project. CHAT reports that the ecological sensitisation component of family planning has proved successful thus far, but that friction remains within male members of the community. Therefore it will be important to analyse what the attitudes are that are determining the success or failure of the program within the Samburu community.

C. DETAILS OF PARTICIPANTS

C1 Data subjects
Who will the personal data be collected from?
Between 30 to 50 men aged 18+ from from the Samburu tribe, Lodonokwe, Kenya.

C2 What data will be collected
Please provide details of the type of personal data to be collected
Focus group discussions and interviews will provide verbal data on the attitudes and opinions of the men on a specific family planning program.
Names of the participants will be collected for logistical purposes at recruitment, but this information will be made anonymous by coding the names into numbers and letters.
Ages of the participants will be collected.

C3 Disclosure
Who will the results of your project be disclosed to?
Final research findings will be written up in a dissertation project for the MSc in Global Health and Development at University College London.
This research paper will be shared with the Community Health Africa Trust (CHAT) and to relevant Kenyan government institution immediately after its submission to UCL.
A 2 page lay summary of the findings from the project will be made available to the study participants within 2 months after completion of the project. This will be written in both English and Swahili as appropriate.

D. CONSENT

D1 Consent
Please include the information sheet and consent forms you will be using for this project, and or
If you are not including an information sheet and consent form, please explain why:

**E. INTERNATIONAL TRANSFER**

**International Transfer**

The eighth principle of the Data Protection Act 1998 prohibits the transfer of personal data to countries or territories outside the European Economic Area (which consists of the 27 EU member states, Iceland, Liechtenstein and Norway).

At the time of writing the following countries have also been deemed adequate for the purposes of the 8th principle Andorra, Argentina, Canada, Faroe Islands, Guernsey, Isle of Man, Israel, Jersey, New Zealand, Switzerland and Uruguay.

If you intend to transfer data to a country not mentioned above, please supply details of adequate safeguards below:

**F. PUBLICATION**

Will the results of your research be published in an academic journal or other publication?  **YES**

*Please note that published results must not contain data by which an individual can be identified.*

**G. NOTIFICATION**

**Notification**

(Please note that notification is a prerequisite for registration)

Have you informed your department's Data Protection Coordinator about your project?  **YES**

**Notification**

(Please note that notification is a prerequisite for registration)

Have you informed your department's computer representative about your project?  **YES**
H. ETHICS

<table>
<thead>
<tr>
<th>H1</th>
<th>Are you applying to the UCL Research Ethics Committee?</th>
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<tbody>
<tr>
<td>YES</td>
<td>Date of Ethics meeting: 22/02/2016 (Deadline for submission of ethical approval application form 01/02/2016)</td>
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I. REGISTRATION

<table>
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<th>I1</th>
<th>Registration: Office use only:</th>
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<tr>
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<td>UCL Data Protection Registration Number:</td>
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<td>Data issued:</td>
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Further information

For more information and guidance on the UCL Research Committee, please visit [http://ethics.grad.ucl.ac.uk/](http://ethics.grad.ucl.ac.uk/)

When all essential documents are ready to archive, contact the UCL Records Office by email at records.office@ucl.ac.uk to arrange ongoing secure storage of your research records unless you have made specific alternative arrangements with your department, or funder.

For information on the UCL Records Management Service, please visit [http://www.ucl.ac.uk/library/about/records-office/transfer-records](http://www.ucl.ac.uk/library/about/records-office/transfer-records)

Finance and Business Affairs
Legal Services
6th Floor, 1-19 Torrington Place
London WC1E 7HB

September 2014
Information Sheet

Information Sheet for:

**Course & Institution:** MSc Global Health & Development, University College London

**Research Title:** What are the attitudes and opinions of Men in the Samburu tribe, Kenya on the use of ecological sensitisation as a component of family planning programs?

**Researcher:** Mr Loren Kock

**Address:** 1 Bowmans Mews, London, E1 8RY United Kingdom

**Contact:** loren.kock.15@ucl.ac.uk

**Supervisor:** Dr Audrey Prost

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 8323/001

**NB:** You will be given a copy of this information sheet.

I would like to invite [ ] to participate in this research project.

**Details of Study:**

**Research aims:** To investigate the attitudes and opinions of Samburu men on the use of ecological sensitisation as a component of family planning programs.

**Possible benefits:** This research will give you the opportunity to voice your attitudes and opinions on the use of ecological sensitisation as part of the family planning program carried out by the Community Health Africa Trust (CHAT). The information you provide could be used to improve the program and its services.

**I am recruiting:**

15-20 men of age 18-25.
15-20 men of age 25-45 and
15-20 men of age 45+

**How the research will be carried out:** If you consent to participate you will be invited to ONE of these two events that will last approximately 1 hour.

- A focus group discussion at a convenient and accessible location. This focus group will consist of 6-10 people
- A 1:1 informal interview
- Refreshments will be provided

I will audio record the focus group discussions and interviews and then transcribe (write) them. Once all the data collected has been transcribed the recordings will be deleted. Personal details such as your name will be treated with the strictest confidentiality and will only be seen by the researcher. Everything spoken during the group discussions and interviews will be made anonymous and kept safe so that no one will know what you have said individually. Your name or any identifiable information about yourself will not be included in the report. The data collected will be analysed and reported as part of a MSc dissertation

**Please be aware of the following:**

- Please discuss the information above with others if you wish or ask us if there is anything that is not clear or if you would like more information.
- Topics on the use of family planning may arise during the discussion that are frustrating or distressing. You are under no obligation to answer any questions and can withdraw your participation at any time, without reason or penalty.
• It is up to you to decide whether to take part or not: choosing not to take part will not disadvantage you in any way. If you do decide to take part you are still free to withdraw at any time and without giving a reason.

• You may withdraw your data from the project at any time up until it is transcribed and made anonymous for use in the final report.

• Recorder interviews will be transcribed (written up) and the tape will then be wiped clear.

• If you agree to take part you will be given this information sheet to keep and be asked to sign a consent form.

• A copy of the final report will be made available to you, along with a summary of the main findings from this research.

All data will be collected and stored in accordance with the UK Data Protection Act 1998

Thank you for reading this information sheet and considering taking part in this research.
Consent Form

Informed Consent Form for:

Course & Institution: MSc Global Health & Development, University College London
Research Title: What are the attitudes and opinions of Men in the Samburu tribe, Kenya on the use of ecological sensitisation as a component of family planning programs?
Researcher: Mr Loren Kock

This study has been approved by the UCL Research Ethics Committee (Project ID Number): 8323/001

Thank you for your interest in taking part in this research. Please complete this form after you have read the information sheet and/or listened to an explanation about the research.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to take part. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant’s Statement

I agree that:

- I have read the notes written above and the Information Sheet, and understand what the study involves.

- I understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.

- I consent to the processing of my personal information for the purposes of this research study. I am assured that the confidentiality of my personal data will be upheld through the removal of identifiers.

- I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.

- I understand that my participation will be audio recorded and I consent to use of this material as part of the project.

- I understand that the information I have submitted will be published as a report and I will be sent a copy. Confidentiality and anonymity will be maintained and it will not be possible to identify me from any publications.

- I agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.

Printed Name:

Signature: Date:


**Topic Guide**

**Introduction**

Greet participant(s). Thank them for their time. Introduce researcher and research assistant/interpreter.

We are here to listen to and understand your opinions on Family planning and in particular the family planning program carried out by CHAT which links family size to the environment.

Please be aware that this discussion is being audio recorded. Once the recorded information has been written down the recording shall be deleted. Your information such as name shall be made anonymous.

This research is voluntary; you are free to stop taking part at any time. There are no right or wrong answers, please feel free to speak about anything you believe to be important that does not come up in our questions.

A copy of this research will be made available to you via the Community Health Africa Trust (CHAT).

1. **Participant(s) background and livelihood.**
   - Please tell me about your background and your livelihood/your role in the community.
   - How long you have been living in Lodungokwe?
   - In what ways has any part of your life changed since you were young?

2. **Thoughts/beliefs about family, gender, family size and FP.**
   - Could you tell us about your family? How many siblings do you have? How old?
   - How many wives do you have?
   - What is your role in your family?
   - What are your beliefs about family? What family desires do you have for the future?
   - What is the ideal family size for you, and why is this size important?
   - What are the benefits of large families? Do you see any benefits of smaller families?
   - Why is family important in your opinion?
   - Do you have any different opinions to the Samburu community on family?
- What are your opinions on FP and the use of contraceptives? What is your experience of FP? Do any of your wives use contraceptives? Do you approve of them?
- What is the role of men in the Samburu? What is the role of women in the Samburu? How have these changed in your lifetime?
- How does FP change your relationship with women in your family and community?

3. Environmental and resource thoughts/concerns.

- What is your relationship with the environment? Which resources are most important for your way of life.
- In what ways has your environment and resource availability changed in your lifetime? For example more or less drought/rain?
- How have you coped with environmental stress?
- Has your livelihood changed because of environmental change or resource availability?

4. Thoughts/knowledge on link between family size and environmental resources.

- Have you any thoughts on how having a large family affects your environment and availability of resources? What is your role in your family?
- What are your opinions on your relationship with wildlife in Samburu?
- Do you see any benefits of conservation?
- What is your opinion of the community conservancy movement of the Northern Rangelands Trust? Do you receive benefits from these conservancies?
- Do you have any conflicts with wildlife?
- How does having large families affect the relationship with wildlife and conservation?
- How is the availability of environmental resources such as water or grazing land affecting your attitudes towards family size?

5. Perception of PHE FP programme.

- What are your opinions of CHATs FP programme?
- How does CHATs programme, which discusses family size related to the environment and conservation affect your attitude towards FP and family size?
- How does CHATs programme affect your relationship with women in your family?
- Can you see benefits for women in your family and community from this programme?
- Are there any parts of the programme that you are not happy?
- Which parts of the programme are you happy with?
- Do you have any suggestions as to how the programme could be improved?
Thank participant(s) for their time. Ask them if there is anything else that they wish to discuss.

Map of Location of Samburu County