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Scaling Up Family Planning in Zambia

PART 2: THE COST OF SCALING UP FAMILY PLANNING SERVICES

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RESEARCH REPORT

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List of Acronyms

BCC	Behavior change communication
CBD	Community based distributor
CIP	Costed Implementation Plan
CPR	Contraceptive Prevalence Rate
CSO	Central Statistics Office
CYP	Couple-Years of Protection
DfID	The UK's Department for International Development
DHA	District Health Authority
DHMT	District Health Management Teams
DHS	Demographic and Health Survey
DOC	District Outreach Coordinator
ERES	Excellence in Research Ethics and Science (Zambia human subjects review board)
FP	Family planning
FP2020	Family Planning 2020
GRZ	Government of Zambia
IEC	Information, Education, Communication
iCCM	Integrated Community Case Management
IU(C)D	Intrauterine devices
LARC	Long acting reversible contraceptives
MCDMCH	Ministry of Community Development and Mother Child Health (fomer)
mCPR	Modern Contraceptive Prevalence Rate
MIS	Management Information System
MOH	Ministry of Health
MSI	Marie Stopes International
NGO	Non-governmental organization
PPAZ	Planned Parenthood of Zambia
RH	Reproductive Health
SARA	Service Availability Readiness Assessment
SFH	Society for Family Health
SUFP	Scaling Up Family Planning
UNFPA	United Nations Population Fundm
WHO	World Health Organization
WRA	Women of reproductive age

Abstract

In Zambia, the Scaling Up Family Planning project, funded by DfID and implemented by Abt Associates with the Ministry of Health, was a four year project that started in 2012 with a goal of strengthening public sector provision of family planning (FP) services to 26 under-served districts by improving and expanding key demand and supply functions, in particular through an innovative approach to strengthen outreach activities.

In the 26 districts where SUFP was implemented, there was an increase of 150% in Couple-Years of Protection (CYP) from 2012 to 2014, compared with an increase of 84% in districts that did not have SUFP support (figures from MCDMCH database) (Table 1). In 6 districts where support was reportedly only provided by SUFP, the number of CYP increased by 227% over the same period. A more detailed analysis of utilization in individual facilities and related communities supported by SUFP in one of the two study districts showed an increase in CYP of 37% over the same period. While SUFP was not the only project providing support to family planning in most districts and the government actually provided the family planning services, it does appear that some of this increase can be attributable to SUFP support.

The project's package of scaling-up activities appears, therefore, to have been successful in contributing to increased service utilization within and across districts, and the gains appear to have been largely maintained during the project period. The interventions appear to have contributed to significant increases in family planning counseling visits in general and visits for long acting reversible contraceptives (LARC) in particular, resulting in increases in CYP.

The average expenditure by the project per district for implementing the initial start-up family planning strengthening activities was USD 46,092. Support for an 18 month period after the start-up was approximately USD 32,860, plus the salary of a half-time district coordinator for 18 months, which was estimated at an average of USD 7,192. Some of the support costs were reportedly for addressing district-level bottlenecks, such as financing repairs and fuel for vehicles needed for resupply of commodities and supervision.

The full cost (project and government) of the initial start-up package of project-type activities for one district (2015 population 271,503), was approximately ZMW 1.7 million (USD 282,000) which comes to an average of ZMW 29 (USD 4.74) per woman of reproductive age (WRA). The annual recurrent costs (excluding equipment) needed to provide the expanded package of community, outreach, and facility-based services would be around ZMW 4.9 million (USD 795,000) in 2015, which comes to ZMW 80 (USD 12.96) per WRA. Replacement equipment for community-based distributors (CBDs) would cost an additional ZMW 59,000 (USD 9,500) every year, and replacing all equipment would cost an additional ZMW 591,000 (USD 95,000) every third year. The annual recurrent cost reflects the provision of services that would result in 38,876 CYP, which would amount to ZMW 126 (USD 20) per CYP. If the costs of the commodities, facility staff time, management and supervision staff time, and transport costs can be covered by the government within its existing budget, then the additional recurrent costs needed for scaling up would only be around ZMW 1.5 million (USD 250,000) per district. These figures can be used as a rough guide for estimating the cost of replicating the package in other districts in Zambia.

Challenges included attrition of CBDs, lack of equipment and space in some facilities, facility staff shortages, and irregular access to supplies of oral contraceptives and condoms at the community level. Sustainability of interventions after the end of the project has been a major concern, with doubts over the ability of the government to cover the costs of outreach, supply chain, and CBD support costs that have been funded by the project. Finding solutions to high CBD attrition was identified as a key challenge given the important role that CBDs have in extending FP services to the community.

Executive Summary

BACKGROUND

This costing study is Part 2 of a broader implementation research study designed to establish the feasibility of integrating successful interventions and lessons from the Scaling-Up Family Planning (SUFP) project into Zambia's health system at the conclusion of the project, and to contribute to the global learning on scaling-up family planning services. The specific objectives of this research were to:

1. Provide recommendations regarding the feasibility of integrating the project's camping approach into Zambia's public sector family planning system at the conclusion of the SUFP project;
2. Explore fidelity and adaptation of the camping approach during its scale up process;
3. Identify barriers and facilitators to scale up of project activities;
4. Better understand the cost implications in determining the scope and pace of scale up of project activities; and
5. Contribute to the global learning on scale up of family planning programs.

This costing study specifically addresses objective number 4, while the remaining objectives are covered in Part 1 of the study report.

The main contribution of the costing study was to examine the cost implications in determining the scope and pace of scale up. To accomplish that, the study aimed to estimate the costs of establishing, maintaining, and scaling-up specific elements of the SUFP approach, including the camping approach. This involved the following:

- Documenting the methods that SUFP used to scale up its interventions from seven districts to a total of 26 districts in three years, and documenting what role, if any, cost considerations played in determining the pace of the expansion.
- Costing each intervention, including both the geographical scale up (e.g. adding more districts and facilities/communities), and couple-years of protection (CYP) scale up (e.g., adding long-acting, reversible contraceptives to the available methods).
- Costing each type of resource and activity, and identifying the main cost drivers. This includes direct costs (e.g. contraceptives and supplies), and indirect costs (e.g. management, supervision, training, and human resources).
- Assessing if there were any efficiencies resulting from changes made in the project design and implementation over time, and economies of scale resulting from adding more districts.

As part of the costing study, we collected data related to outputs that were needed to provide context for the costs incurred, and to provide a basis for projecting the cost of continued scaling-up after the project ends. We also include in the report other information collected which relate to performance and bottlenecks.

PROJECT DESCRIPTION

SUFP focused on several important aspects of decentralizing and integrating FP service delivery into the government health system at district, facility, and community levels, with an emphasis on reaching poor and

under-served women and adolescents. These aspects included capacity building, infrastructure strengthening, behavior change communication (BCC), contraceptive security, policy and advocacy in support of an enabling environment for reproductive health (RH) and FP, supply chain management, and strengthening management information systems. SUFP also trained and mentored public health professionals to deliver comprehensive FP counseling. Additionally, SUFP provided support to the district with service coordination and with funds for outreach and supervision when necessary. It should be noted that SUFP did not directly provide family planning services, but aimed at improving demand and supply for services provided by the Government.

An innovative element of the project's initial package of scaling-up activities was a camping approach, which involved a team of SUFP facilitators and MCDMCH health facility staff who "camped" in targeted areas within the district for two weeks each, with an area typically being a health center and its catchment population. During the camping visits the MCHMCH team provided FP services, with a particular focus on long-acting, reversible methods (LARCs), and disseminated intensive IEC and BCC messages to communities, with a special focus on adolescents. As the project was rolled out the camping process was reportedly implemented more by the MCDMCH staff with less support from the project. The camping approach was intended to create more demand for services and to strengthen the ability of the health facility staff to conduct outreach more regularly.

METHODOLOGY

The costing study was conducted in Zambia in April and May 2015 with follow-up in August 2015. The methodology involved a macro-level analysis and a micro-level analysis:

- The purpose of the macro analysis was to identify relevant SUFP project costs and the impact in terms of numbers and types of methods provided;
- The purpose of the micro analysis was to carry out a more in-depth analysis of costs and impact in two districts – one that started in the first phase of the project and one in the second phase.
- The cost data collected were entered into a costing model so that projections could be easily made and analyses such as marginal costing could be conducted.

FINDINGS

The SUFP scale up process piloted the package of scaling-up activities in a few districts as a first phase and followed that by replicating the activities in more districts. SUFP started in 7 pilot districts between October 2012 and April 2013. The project then expanded its activities to 13 more districts between May and September 2013, and to 6 more districts between April and June 2014, for a total of 26 districts. Phases 2 and 3 were intended to build on the experiences of Phase 1. The project ended in 2015.

Detailed annual budgets, based on estimated resource needs, were prepared for start-up and ongoing project activities in the Phase 1 districts and were then refined, based on Phase 1 experience, for the Phase 2 and Phase 3 districts. The ongoing, recurrent budgets included support for logistics and supply chain. Although the actual total expenditures per district were similar for each district across the different phases, fewer community-based distributors (CBDs) were trained on average per community and fewer villages on average were covered by SUFP-supported outreach in Phases 2 and 3 than in Phase 1, which may indicate that the need was less in the later phases or that there were some additional constraints.

The analysis of utilization data indicates that implementing the scaling-up package of activities within districts

and across districts was successful and that this contributed to gains that were largely maintained through the end of the project. The package of activities appears to have contributed to increases in numbers of family planning clients in general and in provision of LARCs in particular, resulting in increases in CYP.

In the 26 districts where SUFP was implemented there was an increase of 150% in CYP from 2012 to 2014, compared with an increase of 84% in districts that did not have SUFP support (figures from MCDMCH database) **(Table 1)**. In 6 districts where support was reportedly only provided by SUFP, the number of CYP increased by 227% over the same period. The more detailed micro analysis of utilization in individual facilities and related communities supported by SUFP in one of the two study districts showed an increase in CYP of 37% over the same period. While SUFP was not the only project providing support to family planning in most districts and the government actually provided the family planning services, it does appear that some of this increase can be attributable to SUFP support.

While the initial training, demand creation, and strengthened outreach interventions are likely to have played a major role in the positive results achieved, it is also important to recognize the role of the project in supporting outreach in the districts throughout the project period, through managerial and financial support for community activities, outreach, supervision and commodity supply logistics.

On average, the cost to the project of implementing the camping approach for each district was ZMW 336,475 (USD 46,092). Support for an 18 month period after the camping was approximately ZMW 239,875 (USD 32,860), plus the salary of a half-time district coordinator for 18 months, which was estimated at an average of ZMW 52,500 (USD 7,192). Some of the support costs were reportedly for addressing district-level bottlenecks, such as financing repairs and fuel for vehicles needed for resupply of commodities and supervision, but these figures could not be separated.

Detailed cost modeling was conducted for one of the Phase 1 districts (Kasama) which had an estimated population of 271,503 in 2015. This showed that the cost of initial scale up activities was around ZMW 1.7 million (USD 282,000), and the annual recurrent costs needed to provide the package of community, outreach, and facility-based services in 2015 would be around ZMW 4.9 million (USD 795,000). Replacement equipment for CBDs would cost an additional ZMW 59,000 (USD 9,500) every year, and replacing all equipment would cost an additional ZMW 591,000 (USD 95,000) every third year. The total start-up cost comes to an average of ZMW 29 (USD 4.74) per woman of reproductive age (WRA) and the total recurrent cost for 2015 would be an average of ZMW 80 (USD 12.96) per WRA. The annual recurrent cost for 2015 reflects the provision of services that would result in 38,876 CYP, which would amount to ZMW 126 (USD 20) per CYP. These figures can be used as a rough guide for estimating the cost of replication in other districts.

If the costs of the commodities, facility staff time, management and supervision staff time, and transport costs can be covered by the government within its existing budget, then the additional costs needed to implement project-type interventions in a new district would be limited to the costs of training and equipping staff and CBDs, and of paying CBDs the costs of attending meetings. These total projected additional costs for a district similar to Kasama would be around ZMW 1.7 million (USD 282,000) for the initial start-up costs, and around ZMW 1.5 million (USD 250,000) per year in recurrent costs.

The additional costs incurred from scaling-up the package of activities from the 26 project-supported districts to the remaining districts should be limited to district-level costs, assuming that the existing national management and supervision structure would not need to expand. In terms of expanding the scaling-up package to cover more health facilities and related villages within a district, then there should be no addition-

al district management costs. Additional costs of training, equipment, meetings, and supervision would be incurred, but should only relate to the additional facility staff, CBDs and the numbers of additional services provided. It should be noted that the labor costs of facility-based providers are a share of their fixed remuneration and are thus opportunity costs. If a provider has spare time, the additional cost is actually zero, but if a provider has to give up another activity then there is an opportunity cost related to that sacrificed activity.

Increasing client numbers should only result in additional costs of providing services – opportunity costs of labor for counseling and method provision, and cost of commodities and supplies. Increasing LARCs would only result in the additional costs related to commodities and supplies and additional labor costs (if any).

Using the 2014 figures we estimated some of these marginal costs:

- Adding one new implant to the 2014 services would have increased the recurrent cost by ZMW 77.07 (USD 12.43) in the year that it was added and would have increased the number of CYP by 3.5. In the following 2.5 years there would be no recurrent cost related to that implant.
- Having one client switch from oral contraceptives in 2014 to an implant would result in a net increase in recurrent cost in that year of ZMW 67.77 (USD 10.93) and would have resulted in an increase of 3.3 CYP. However, again there would be no recurrent cost related to the implant in the following 2.5 years and, thus, there would be a marginal saving in those years of ZMW 9.30 (USD 1.50) per year.

From these figures it can be seen that the cost and benefit from having a client change from oral contraceptives to an implant is almost the same as for adding a new client who chooses an implant.

A major cost driver of implementing the package of scaling-up activities is the start-up cost of the initial training and camping activities, which was around ZMW 58,000 (USD 9,300) for each facility and its related villages. Average recurrent costs per facility would be around ZMW 168,000 (USD 27,100) in 2015. The main recurrent cost drivers would be supervision (16%), meetings (32%), and refresher training (16%). The costs depend largely on the numbers of providers, which in turn depends on the numbers of facilities and villages. The cost of commodities, supplies, and provider remuneration would depend on the number and mix of services. (While the providers are paid fixed salaries, the share of those salaries that is attributed to FP is based on the number and mix of services.) Management costs are fixed costs and would be roughly the same in any district, regardless of size. During the SUFP project the CBDs received no remuneration. However, if that decision were to be changed, then CBD remuneration could become a major cost driver.

The cost of refresher training and replacement of equipment was included, as well as the cost of training and equipping replacement CBDs. These would need to be included in ongoing costs if the activities are integrated into government or continued with other donor support.

The Government's Family Planning Services Integrated Family Planning Scale-up Plan 2013–2020 estimated average projected costs of ZMW 13.05 (USD 2.41) per WRA (excluding commodities) and ZMW 54 (USD 8.71) per CYP over the period 2013-2019. According to this Evidence Project costing study, the average cost per WRA, excluding start-up costs and commodities, would be ZMW 73 (USD 11.77) in 2016, and the average total recurrent cost per CYP in this study would be ZMW 126 (USD 20.32) in 2015, falling to ZMW 102 (USD 16.45) in 2017. These figures are not, however, directly comparable since this Evidence Project costing study figures include a share of the salary costs relating to FP services for health facility service providers, supervisors and managers, whereas the Government's figures apparently do not. Other possible reasons for the difference are that this study assumed regular monthly meetings for CBDs, which carry a high cost for

staff time and per diem and travel costs for CBDs. We also assumed that replacement CBDs would need to be trained and equipped each year, whereas it appears that these assumptions may not have been made in the Government's plan.

Challenges experienced during the project have reportedly included lack of equipment and limited space in some facilities, government staff shortages, and irregular access to supplies of oral contraceptives and condoms at the community level. Sustainability of interventions after the end of the project was a major concern, with doubts over the ability of the government to cover the costs of outreach, supply chain, and CBD support costs that have been covered by the project. Finally, finding solutions to high CBD attrition rates was identified as a key challenge.

RECOMMENDATIONS

Many lessons can be learned from this project and further research would be beneficial, both for the country and globally.

In terms of utilization, further research should include a more detailed analysis of trends, involving comparisons of utilization before, during, and after the project. Additional data collection and analysis would be useful to explore differences in demand and supply between rural versus urban settings, between services provided by CBDs and by facility staff through outreach, and to identify the numbers of IUCDs and implants removed. Research into the demand curve for IUCDs and implants would also be useful to predict when numbers of users might be expected to increase, plateau, and decline. This would require accurate data on population (women of reproductive age) and on provision and removal of IUCDs and implants. Additional research would also be useful to identify the length and intensity of effort required to build sustained demand in Zambia, given the cultural challenges.

While sufficient momentum and behaviour change on the demand side may have been created, at least in the seven Phase 1 districts where the project was in place the longest, it is crucial to maintain access to counselling and services, including the insertion and removal of implants and IUCDs. For replication and sustainability it will, however, be important to reduce and control costs. The best strategy would be to integrate management, supervision, and meetings as much as possible, thus reducing the share that is attributable solely to FP. Minimizing CBD attrition would save the costs of training and equipping replacements and if those CBDs are good performers, then reducing attrition will prevent losses in service delivery performance, since experience and trust are important. However, it should be noted that reducing attrition may involve remunerating or otherwise incentivizing CBDs, which would have a cost. Lessons from other countries show that financial incentives are important motivators for community health workers, together with reimbursement of costs (such as travel and per diem). Non-financial incentives are also important, however, such as having adequate supplies, regular training, supervision, public recognition, and opportunities for advancement and professional development. Incentive programs for CBDs should be harmonized with those for other community health worker programs and must be consistent.

Sustained improvement in FP services is crucial, and it is important to have, from the start of a project, a clear plan and commitment from a government to take over designated project activities and allocate funds accordingly. Ideally this transition should start during the course of the project so that the transition is not too abrupt when the project ends. To assist in this process, an analysis of the government's fiscal capacity and allocation and cash flow processes should be conducted. Part 1 of this study (Bellows et al., 2016) addresses the feasibility of the government taking over the elements of SUFP.

1. Introduction

1.1 ZAMBIA SITUATION

Zambia has had poor maternal health indicators. The government's Family Planning Services Integrated Family Planning Scale-up Plan 2013–2020 states that the total fertility rate was 6.2 births per woman and the maternal mortality ratio was 483 deaths per 100,000 live births in 2010 [1]. Zambia's adolescent fertility rate is also one of the highest in sub-Saharan Africa: 27% of teenage girls between 15-19 years of age have begun child bearing, two out of five girls are married before their 18th birthday, and 73.6% are married by the time they are 20 years old [1]. Limited access to FP, particularly among young women, is evident by the large number of young women receiving post-abortion care services in Zambia. In 2010, 90% of the 90,000 women who received post-abortion care in Zambia were under the age of 20[1].

Despite high levels of knowledge about contraception (99.9% and 98.8% of all men and women, respectively, know of at least one contraceptive method), family planning use is low and condoms and pills are the most common contraceptives. The contraceptive prevalence rate (CPR) is 45% for modern FP methods and the unmet need for FP is estimated at 21% [1]. The low uptake of FP may be due to insufficient method mix, with long-acting reversible contraceptive (LARC) methods notably absent.

Low uptake may also be due to demand-side barriers that include actual or perceived partner or spousal disapproval, myths, rumors and misinformation about FP generally and about specific methods, fears of side effects, and health concerns. There is a lack of knowledge and accurate information about LARCs such as implants and intrauterine devices (IUCDs). For example, in 2007, 97% of Zambian women were familiar with male condoms, 96% with pills, and 95% with injectables, while fewer recognized implants (87%) and only 60% were familiar with IUCDs [1]. This is partly due to negative myths and false rumors about LARCs. Among these rumors are that implants and IUCDs can travel around the body and become lodged in the brain, the heart, or a growing fetus. Some believe that fertility will not return after LARC removal. Health providers may share these misperceptions and negative beliefs, and as a result, deter a client's interest in LARC [2]. In addition, LARC availability is limited it is less likely to be subsidized and is only intermittently available in the public sector and is priced out of reach for the poor in the private sector [3].

To address the challenges mentioned above, the Zambian government has developed and is implementing an eight-year (2013-2020) costed FP scale up plan. The main objectives of the plan are to: increase access to FP services and reduce maternal mortality ratio from 591 deaths per 100,000 live births in 2007 to 159 deaths per 100,000 live births by 2020; increase the contraceptive prevalence rate for modern methods from 33% in 2007 to 58% by 2020; reduce unmet need for contraception from 27% in 2007 to 19% by 2015 and to 14% by 2020; and reduce teenage pregnancy from 28% in 2007 to 18% by 2020 [1].

Government FP services are provided through the MCDMCH through its network of health facilities. The types of FP services provided depend on the level of facility and provider training **(Table 1)**.

The national Service Availability Readiness Assessment (SARA) indicates that health posts are the most common type of health facility and, perhaps from necessity, many function similarly to health centers [4]. SUFP confirmed this, adding that this is especially the case for health posts in or near urban or semi-urban settings. Some health posts host outreach sessions from bigger health facilities and from the District MCH unit, and service figures from such outreach sessions are reported by the host facilities as part of their population catchment areas. In some cases, district staff take equipment with them, and pills and injectables are provided during outreach sessions.

TABLE 1 | PROVISION OF FP SERVICES IN SUFP-SUPPORTED SITES IN KASAMA AND KATETE DISTRICTS

	HOSPITAL	HEALTH CENTER	HEALTH CENTER OUTREACH	HEALTH POST	HEALTH POST OUT-REACH	CBD
Male sterilization	YES					
Female sterilization	YES					
Implants (Jadelle)	YES	YES				
Intrauterine Devices (IUCD)	YES	YES				
Depo-Provera	YES	YES	YES	YES		
Progesterone pill	YES	YES	YES	YES		
Combined oral contraceptive	YES	YES	YES	YES	YES	YES
Male/ Female condoms	YES	YES	YES	YES	YES	YES

1.2 SCALING UP FAMILY PLANNING PROJECT

In order to support the Government of Zambia to achieve these goals, the United Kingdom's Department for International Development (DfID) contracted a consortium led by Abt Associates to implement the Scaling Up Family Planning (SUFP) project. SUFP focused on the provision of contraceptive options, including LARCs, to women in underserved rural areas. The project used a decentralized approach to strengthening FP service delivery that aimed to reduce the unmet need for FP and unintended pregnancies through a coordinated package of demand and supply side interventions in the public sector.

SUFP was a four-year project that focused on supporting public sector provision of FP services to under-served rural areas and populations in Zambia. The project's objectives and activities were aligned with the Government of Zambia's costed Family Planning Services Integrated Family Planning Scale-up Plan 2013–2020 [1], which was developed in response to the goals of the Family Planning 2020 (FP2020) global partnership.

The project targeted districts with the highest fertility and unmet need for FP. Project activities focused on several important aspects of integrating FP outreach and service delivery into the government health system in the districts. These included decentralization; management and service delivery capacity-building at district, health facility, and community levels; infrastructure strengthening; behavior change communication (BCC); contraceptive security; policy and advocacy in support of an enabling environment for reproductive health and family planning; supply chain management; and strengthening management information systems. The project trained and mentored District Health Management Teams (DHMTs), health facility providers, and other service delivery actors to help plan and provide outreach services from health facilities into nearby communities to build the capacity to deliver comprehensive choice of family planning methods and adolescent

friendly services. The project worked with community health workers to sensitise women, men, and community leaders to ensure improved uptake of FP and to provide accurate information to address myths and misconceptions within their communities. High performing CBDs were recruited as "depot holders" to stock short term methods that other CBDs could draw from, saving travel time to health facilities further away.

The project's demand generation activities focused on youth and adolescents, and engaged community leaders and gatekeepers to address misperceptions around and build support for contraception. The project aimed to contribute to dual protection against unwanted pregnancies and HIV, by ensuring that clients who were HIV+ or had HIV+ partners continued to use condoms even if they were using other FP methods (e.g. oral contraceptives or Depo-Provera). To enhance contraceptive security, the project focused on expanding availability of LARCs, such as implants and IUCDs (or IUDs), and providing FP services for adolescent girls and the poorest women to ensure equitable access to FP services.

The main objectives of the project from the FP services perspective can be summarized as follows:

- Increasing coverage in districts through conducting outreach, demand generation, ensuring commodity supplies, and training and equipping providers;
- Increasing protection through the adoption of LARCs;
- Reaching more adolescents and poor women.

It is important to note, however, that SUFP did not provide FP services itself, but aimed at improving demand and supply for FP services provided by the Government.[1]

An important element of the project was its innovative camping approach **(Figure 1)**, which was part of its package of scaling-up activities aimed at community-based demand generation and capacity-building. The camping approach was an intensive form of outreach aimed at jump-starting a greater level of activity in community-based FP service delivery in the targeted communities. This increased activity was to be sustained by CBDs on a continuous basis, with support from the facilities through outreach visits.

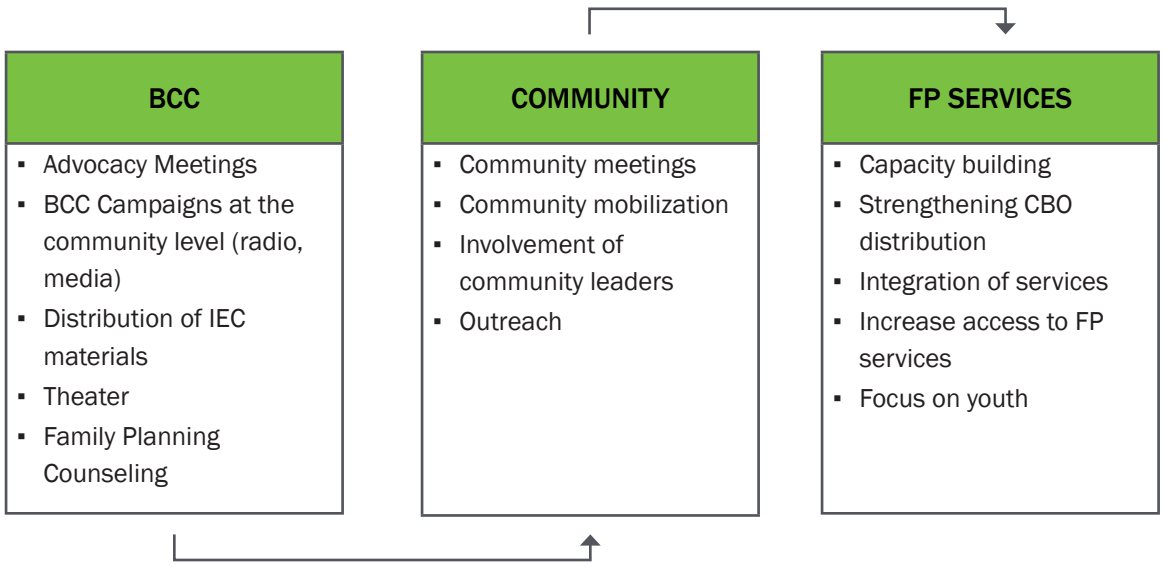
The SUFP project used this camping approach to link health facilities with nearby zones[2] that had high fertility and significant unmet need for FP. In collaboration with the National Family Planning Trainers, a team of SUFP facilitators, trainers, and MCDMCH providers set up a "camp" in a selected location - typically a health center - for one to two weeks. Demand generation was carried out through intensive community mobilization, and BCC messages announced the upcoming event and availability of services to be offered at the camp. Health facility staff provided counseling and FP interventions at the camping event. The camping approach was employed by the project to reach the most under-served communities in each district and to cover at least 50% of the zones in the district. The camping events could take several weeks or months to reach that target in a district.

Community based distributors (CBDs) received capacity building training and participated in the community mobilization, which was carried out throughout the two weeks and was accompanied by delivery of culturally sensitive BCC messages. In addition, the teams provided FP information and services to school-age youths and early-married adolescents. Through the camping approach, the SUFP project worked with community-based champions and opinion leaders to increase awareness of, and acceptance for, family planning by

[1] SUFP financed the national procurement of some commodities but these were distributed by Marie Stopes International.
[2] Clusters of villages that make up the catchment population of a health center.

providing accurate information to address myths and misconceptions that prevail within the communities. Through these activities the camping approach aimed to increase the target populations' knowledge and understanding of family planning and ensure greater access to FP methods to meet increasing demand.

FIGURE 1 | CAMPING APPROACH - THEORY OF CHANGE



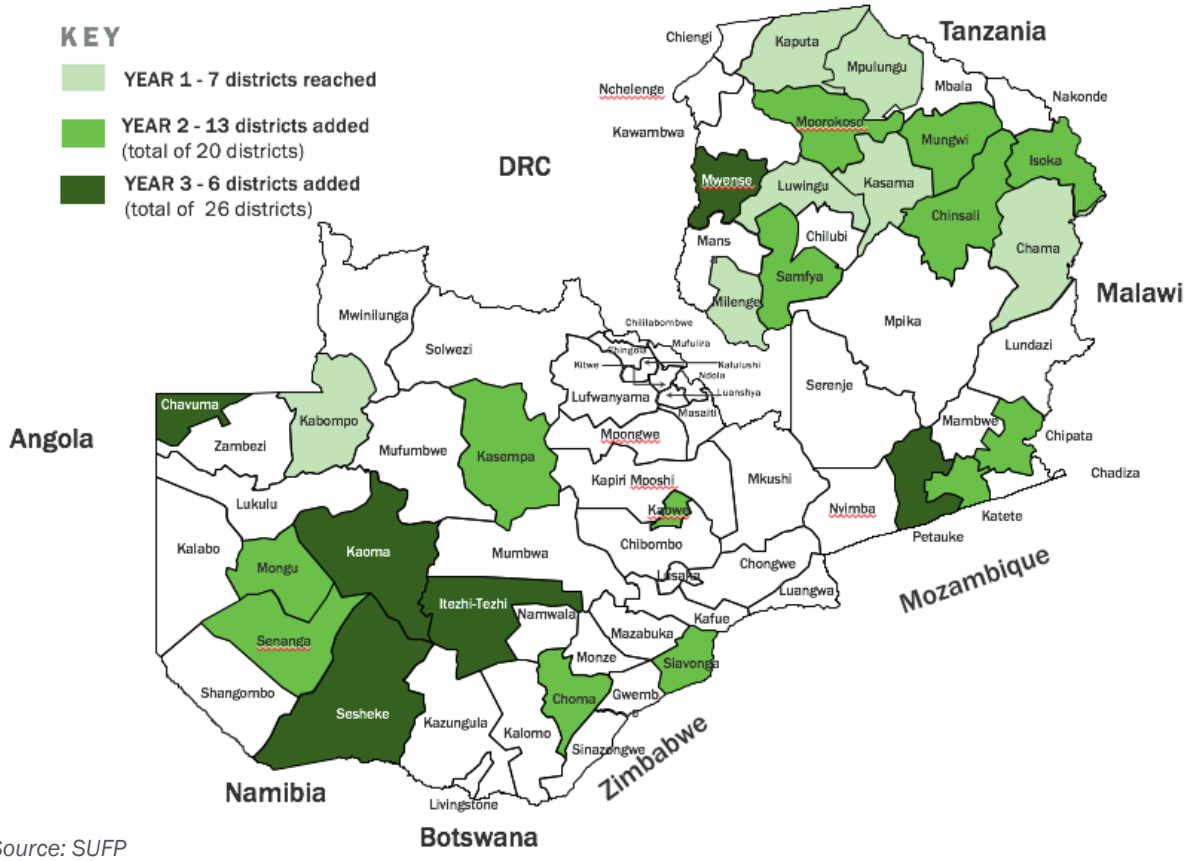
The project target was to support a total of 26 districts over the three years. It started in seven districts in 2012, the project's first year, expanded to 13 more districts in year 2, and to a further six districts in year 3. This brought the total to 26 districts by year 3, which represented roughly one-quarter of all of the districts in Zambia. Within the 26 districts, SUFP's goal was to support 450 health facilities and to reach at least 50% of the related villages with outreach. The names of the districts supported by SUFP and their phases and start-up dates are shown in Annex 1. See also **Figure 2** for a map of the districts supported.

The selection of districts was determined with the MCDMCH and the selection of health facilities within the districts was made by the District Health Authorities (DHAs). In both cases the selection was based on areas with high fertility and unmet need. The facilities were ones that were not supported by other NGOs or projects. During the course of the project, some DHAs asked SUFP to support some additional facilities, where other organizations had ended their support.

The project hired District Outreach Coordinators (DOCs) to help manage the implementation of the project in the districts and to help the MCDMCH district staff with coordination of family planning activities. DOCs were hired at the beginning of SUFP engagement with each district and they worked until the end of the project activities in mid/late 2015. Each DOC was responsible for two districts and was given control over a budget for his/her activities. An important role was to facilitate outreach, supervision, and supply chain, for example by providing funding for fuel for MCDMCH vehicles when needed.

According to SUFP's reports, the project reached a total of 369 health facilities serving 2,689 communities during the course of the project **(Table 2)**. This constituted an average of 14 facilities per district and 7 communities per facility. From October 2012 to December 2014, SUFP trained a total of 462 facility staff in long-term methods and a total of 1,896 CBDs in FP counseling and short term methods. The numbers trained were higher in most of the first seven Phase 1 districts, which had, on average, more facilities and

FIGURE 2 | MAP SHOWING SCALE UP OF SUFP SUPPORT



Source: SUFP

villages than the Phase 2 and Phase 3 districts, though not enough to account for the differences in numbers trained. It is not known if the reason for training fewer CBDs in Phases 2 and 3 was due to limited resources, or if having fewer numbers of CBDs had a material impact on the numbers of services provided.

From October 2012 to December 2014, a total of 1,949 communities received outreach visits, which represented 72% of the total number of communities covered by the project-supported health centers. The highest level of coverage of communities was 100% and the lowest was 54%.[3] The number of communities that received outreach between October 2012 and December 2014 was lowest in Phase 3 (58%), compared with 75% in Phase 2 and 80% in Phase 1. This also indicates that perhaps SUFP had more limited resources later in the project, which may have negatively affected the numbers of services provided in Phases 2 and 3. We could not get data on CBD attrition rates except in the two sample districts – these rates were around 25% per year in Kasama and 16% per year in Katete.

According to the project, the activities resulted in 286,456 additional women and girls receiving family planning counseling and services from March 2012 to July 2015, resulting in 571,522 CYP.[4]

[3] In all cases the SUFP target to reach a minimum of 50% of zones was achieved but with an overall average of 72% reached that meant that many communities and women were not reached. The cost of scaling up to cover all districts is not constant and estimates are built on significant assumptions, since presumably many of these communities are very hard to reach.
[4] Per Abt Associates presentation 6 October 2015

TABLE 2 | SUFP ACTIVITIES – NUMBERS OF FACILITIES, VILLAGES AND TRAINEES BY IMPLEMENTATION PHASE

SUMMARY	NUMBERS OF HEALTH FACILITIES	NUMBER OF ZONES/ COMMUNI-TIES	PROVIDERS TRAINED IN LARC	CBDS TRAINED	NUMBER OF ZONES RECEIVED OUTREACH (OCT 2012 - DEC 2014)	% OF ZONES RECEIVED OUTREACH
Phase 1 - Total	100	835	149	835	665	80%
Phase 2 - Total	174	1251	195	656	934	75%
Phase 3 - Total	95	603	118	405	350	58%
Total all phases	**369**	**2689**	**462**	**1896**	**1949**	**72%**
Phase 1 - Average	14	119	21	119	95	80%
Phase 2 - Average	13	96	15	50	72	75%
Phase 3 - Average	16	101	20	68	58	58%

SUFP is one of four projects providing support to the Government of Zambia in the provision of FP services. According to the Government in 2013 [1], the other three were:

- Marie Stopes International (MSI) provided FP services, focusing on LARCs, at a few fixed sites and 100 outreach sites. MSI trained health care workers to provide LARCs and provided them with necessary equipment. All the outreach sites were fixed GRZ or mission-run clinics.
- Planned Parenthood of Zambia (PPAZ) provided FP services, focusing on LARCs, at three fixed sites and 17 outreach sites in nine districts. Some outreach sites were GRZ or mission-run clinics, others used tents or mobile clinics. Training was also provided to trainers, mentors, and community health workers.
- Society for Family Health (SFH) provided FP services, focusing on LARCs, at 22 fixed sites and 519 outreach sites – either GRZ or mission-run clinics.

According to interviews with SUFP staff, while SUFP had become fully operational in all 26 project districts by mid-2014, some other provider partners were scaling down their activities in their intervention districts and health facilities at that time.

2. Costing Study Objectives

This costing study is Part 2 of a broader implementation research study designed to establish the feasibility of integrating successful interventions and lessons from the SUFP project into Zambia's health system at the conclusion of the project and to contribute to the global learning on scaling-up FP services.

Since the SUFP Project was preparing to end at the time of the study and activities were in the process of being wound down, this study is largely a retrospective analysis.

The specific objectives of this research were to:

1. Provide recommendations regarding the feasibility of integrating the camping approach[5] into Zambia's public sector family planning system at the conclusion of the SUFP project in 2016;
2. Explore fidelity and adaptation of the camping approach during its scale up process;
3. Identify barriers and facilitators to scale up;
4. Better understand the cost implications in determining the scope and pace of scale up; and
5. Contribute to the global learning on scale up of family planning programs.

The main contribution of the costing study to the overall study is defined in the fourth objective, to "better understand the cost implications in determining the scope and pace of scale up." In order to do that, the study aimed to estimate the costs of establishing, maintaining, and scaling up the SUFP strategy, including the camping approach. This involved the following:

- Documenting the methods that SUFP used to scale up its interventions from 7 districts to 26 districts in three years, and documenting if and how cost assessments played a role in determining the pace of the expansion.
- Costing each element of the intervention, including both the geographical scale up (e.g. adding more districts and facilities), and increasing years of protection by generating more demand and making LARCs more easily available.
- Costing each type of resource and activity and identifying the main cost drivers. This covers direct costs (e.g. contraceptives and supplies), and indirect costs (e.g. management, supervision, training, and human resources.).
- Assessing if there were any efficiencies resulting from changes made in the project design and implementation over time and economies of scale resulting from adding more districts.

It is important to emphasize that the role of the SUFP project was to provide training, technical assistance, and logistical support to the MCDMCH and not to provide counseling or family planning interventions, which are provided by staff of the MCDMCH and by CBDs.

Different aspects of the SUFP project can be regarded as scaling-up[6], including expanding service provision to reach more women within communities, introducing more long-term methods to expand couple-years of protection, the systematic expansion of project activities across health facilities and related communities within a district, and the expansion of project activities to new districts. The study has attempted to consider all of these.

[5] During the early stages of conducting the study it was realized that the camping approach was only one element of SUFP Project activities designed to strengthen FP services in the district and the scope of the study was, therefore, broadened to cover the other elements.

[6] Scaling up has been defined by WHO as "deliberate efforts to increase the impact of health service innovations successfully tested in pilot or experimental projects so as to benefit more people and to foster policy and programme development on a lasting basis". [5]

3. Costing Methodology

3.1 OVERALL METHODOLOGY

Cost information is generally only relevant when compared with results as measured in outputs or outcomes. Decisions on scaling-up, for example, should be based on what it will cost to achieve desired results or what results can be achieved with the available resources. Determining outcomes for family planning programs, such as reductions in maternal mortality, can be a complex and lengthy process, and for the purposes of this study it was considered sufficient to compare the costs with outputs (such as numbers of clients reached or methods adopted).

In the case of a project that provides training, technical assistance, and logistics support and does not provide FP counseling or commodities to clients, the issue of attribution of results to the resources used is difficult, as there can be other factors that contribute to the results. Nevertheless, we deemed it important to try to measure the results in terms of numbers of services provided in order to answer the scaling-up questions.

Significant effort was therefore put into trying to measure service utilization as well as the costs. Two approaches were used – a macro-level analysis and a micro-level analysis.

- The purpose of the macro analysis was to try to identify the overall program results in terms of numbers of methods provided in all the 26 SUFP-supported districts and also to identify the SUFP expenditures for each district.
- The purpose of the micro analysis was to carry out an in-depth analysis of the costs and numbers of methods provided in two districts. These data were then used to develop a model to project costs and results and to estimate marginal costs.

The following data were identified as needed for the analysis:

- Number of facilities by district in total and number of facilities assisted by SUFP;
- District population size;
- Numbers of providers trained in SUFP-supported districts (CBDs and MCDMCH staff);
- Numbers of new and repeat services provided, by method, in districts assisted by SUFP and in other districts;
- SUFP expenditures by district, broken down by functions and resource types.

It was agreed beforehand that the study would focus on district costs and would exclude the costs of project management, such as overall management and technical assistance, because most of these higher-level project costs would not need to be replicated by the Government if services are taken over. However, we included the remuneration of the project's DOCs, as they played an important district-level role.

It was understood in advance that there would be some constraints to the costing study due to insufficient time and resources. In particular it was agreed that it would not be possible to:

- Calculate the cost of removing any bottlenecks identified during the study;
- Estimate economic (non-financial) costs, such as the opportunity costs of CBDs;

- Estimate the financial and economic costs incurred by clients;
- Compare detailed costs and results in the two sample study districts with those in any other districts;
- Compare costs and outputs (e.g. for cost-effectiveness) with any other organizations that assist the government in providing family planning services;
- Estimate the financing capacity (fiscal space) of the government to take over project-supported activities that need to be sustained.

3.2 MACRO ANALYSIS METHODOLOGY

To try to measure the results at the macro-level, we analyzed the numbers of services reported by SUFP and also the numbers reported by the MCDMCH. Since SUFP did not collect and compare data from any control districts, it was hoped that a comparison of MCDMCH data from SUFP-supported districts with the same data from other districts would provide some indication of relative results.[7] For example, if the numbers of services increased faster in districts supported by SUFP than in districts not supported by SUFP, that might indicate the contribution of the SUFP activities, even if SUFP does not cover the whole district.

The SUFP service figures were provided by the SUFP Lusaka office and covered the period from April 2013 through March 2015.[8] These figures represent services provided by the MCDMCH at the facilities and villages supported by SUFP. The data were compiled by the MSH study team into one data set.

The MCDMCH figures were obtained from the national MCDMCH office and covered total monthly family planning service data for the calendar years 2012, 2013, and 2014 for all districts.[9] These figures should include the numbers of services reported by SUFP for the facilities that SUFP supports, the numbers of services for other government facilities, and the numbers of services provided by NGOs, such as MSI, PPAZ, and SFH. The reports were compiled by the MSH study team into one data set with assistance from a Population Council intern.

Data were not provided by MCDMCH for Lusaka Province, which covers 4 districts. The data set therefore covers 62 of the original total of 66 districts. The data sets provided by the MCDMCH actually cover 95 districts, the difference being a number of new districts that were reportedly created between 2010 and 2013.

MCDMCH reporting rates in 2013 were not all 100%. For example, in Kasama District the majority of facilities only reported for 10 months of 2012, but by 2014 most facilities reported all months.

We were not able to get consistent, comparable population data to expand the analysis due to the government re-designation of districts during the project period.

[7] Concerns were raised by SUFP about using the MCDMCH data without validation but there was no time to review the quality or completeness of the data and it was deemed that it would be adequate for indicative macro-level comparisons across districts and years.
[8] In the original districts it seems that services started before April 2013 but the service figures for the months before then do not appear complete so we only used the figures from April 2013.
[9] Except for the four districts in Lusaka Province which were not included in the MCDMCH reports provided to us.

4. Macro Analysis Findings

4.1 MACRO ANALYSIS APPROACH

To conduct the macro analysis, the MSH team first used the SUFP project data to compare numbers of FP services reported by districts where SUFP provided technical assistance, which only covers services provided at facilities supported by SUFP. We also recognized that the project's district-level support could have an indirect impact on all district services, including those provided at facilities not supported by SUFP. We, therefore, compared total numbers of services reported by the districts, which cover all facilities, and which was obtained from MCDMCH records. Since not all facilities in a district were supported by SUFP, comparing total district numbers of services is only indicative of attribution. To facilitate this analysis we first took the reports obtained from SUFP and put the figures into a spreadsheet database.

4.1.1 Results for Facilities Supported by SUFP Using SUFP Data

The figures in this section reflect services provided by the MCDMCH at health facilities and in related villages supported by SUFP. These are district totals for those facilities, not for all facilities, since there were generally other facilities and villages not supported by SUFP. The data in this section are from SUFP records and reports.

The SUFP reports show figures separately for new and return visits for each method for the facilities and related villages assisted by SUFP. Unfortunately, data for the period prior to the SUFP start-up in these districts was not included in the SUFP reports and so we could only look at monthly trends and totals during the project period. Because of some large monthly variances, which may be due to reporting issues, we grouped the figures into quarterly totals.[10,11]

4.1.2 Comparisons of Results for Phase 1 SUFP-Supported Districts Using SUFP Data

Since the project conducted activities in the seven Phase 1 districts for the longest time period, an important comparison can be made of the trends with available data from April 2013 to March 2015.[12] The SUFP activities reportedly started between October and December 2012 in four of the seven Phase 1 districts and by April 2013 in the remaining three districts. For the trend analysis we converted the SUFP monthly figures into CYP. We are aware that SUFP does not include condoms in its reporting due to data challenges (see Annex 5), but we include them here so that total numbers of services can be matched with the costs.

Overall the facilities supported by SUFP in the seven districts achieved a total number of 178,261 CYP in the two years between April 2013 and March 2015.[13] Across the quarters, the total numbers of CYP were relatively steady, starting with 26,665 in April to June 2013 and ending with 20,215 in January to March 2015 **(Table**

[10] We did not have any data on numbers of missing reports from the SUFP data set.
[11] SUFP told us that there were a lot of data quality challenges, mainly incompleteness and timeliness, with the MCDMCH reports and the project required some data not reported by the MCDMCH. Eventually, SUFP developed a separate reporting system for project purposes but the breakdown of services into age groups for revisits was not captured for the Year 1 districts.
[12] The names of the 7 districts are shown in Annex 1.
[13] CYP are probably overstated since, reportedly, the numbers of IUCDs and implants removed are not taken into account in the reported new and revisit figures.

3).[14] The main trends over that period were declines in numbers of condoms issued and increases in the numbers of implants.[15,16] The camping approach started before the April to June 2013 quarter, but we were only able to compare data from April 2013; since we did not have pre-intervention data that would serve as a baseline and so it was not possible to measure the short-term impact of introducing the project activities.[17]

TABLE 3 | CYP FOR SEVEN PHASE 1 DISTRICTS SUPPORTED BY SUFP (NEW AND RE-VISITS COMBINED)[18]

CYPs	APL-JUN 13	JUL-SEP 13	OCT-DEC 13	JAN-MAR 14	APR-JUN 14	JUL-SEP 14	OCT-DEC 14	JAN-MAR 15
Male condom	8,077	4,326	5,113	5,185	2,813	6,267	3,603	2,977
Female condom	174	94	277	214	137	77	52	15
Pill cycles	1,149	1,411	2,063	1,462	1,594	1,575	1,342	1,125
Depo-Provera	3,922	2,787	3,630	3,182	4,000	4,161	3,790	3,476
Intrauterine Devices	4,444	3,255	1,184	987	667	975	2,544	2,995
Subdermal implants	7,089	7,015	11,541	9,394	12,046	11,430	10,655	8,818
Female sterilization	1,630	150	110	35	160	-	30	90
Male sterilization	180	10	30	-	10	-	-	720
Total	**26,665**	**19,048**	**23,947**	**20,458**	**21,428**	**24,485**	**22,016**	**20,215**

Source: SUFP statistics

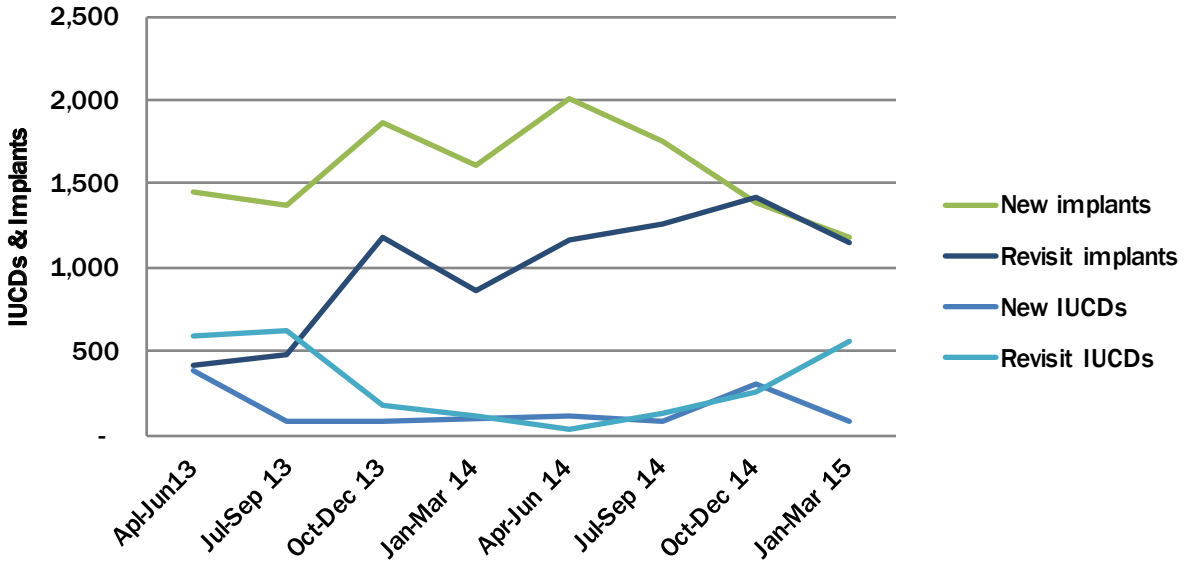
In terms of LARCs, the numbers of new FP clients (new visits) who chose implants rose significantly through December 2013, remained steady through April-June 2014 and then fell from September 2014 through March 2015 **(Figure 3)**. The numbers of existing clients who switched to implants (revisits) (around 550) was much lower than the number of new clients who chose implants (1,500) in the first quarter but increased quickly and by October-December 2014 caught up with the number of new clients who chose implants.[19] Both numbers dropped in the last quarter (January-March 2015), with possible reasons including

[14] According to SUFP the figures for re-attendances all relate to provision of contraceptives and do not include, for example, counseling only or removals of implants or IUCDs.
[15] The numbers of IUCDs and implants removed are not taken into account in the reported figures.
[16] The reduction in condom users may have negative implications for protection from HIV but that would need to be researched separately.
[17] Although the project reportedly started activities in the Phase 1 districts before April 2013, complete reports were only available from April 2013.
[18] The high number of CYP for female sterilization in April-June 2013 is due to an unusually high figure reported by Mpulungu District, which casts some doubt on its accuracy.
[19] According to SUFP the number of new visits for a method means a new FP client who chose that method. Whereas the number of revisits for a method includes persons who get resupplied with that method and persons who were existing FP clients who changed to

supply-side issues (e.g., shortages of commodities, staffing, or equipment, or facility space) or because the demand for implants became somewhat saturated.

The numbers of IUCDs shows a different pattern. Initially the numbers of women who switched to IUCDs was higher than the new acceptors of IUCDs, but the numbers for both groups became very low between October-December 2013 and July-September 2014. By January-March 2015, the numbers of women switching to IUCDs started to rise whereas the number of new clients who chose IUCDs rose and then fell again.[20] Overall the numbers of new users of IUCDs were much lower than the numbers of new users of implants.

FIGURE 3 | SUFP DATA – NEW AND REVISIT IUCDs AND IMPLANTS FOR SEVEN PHASE 1 DISTRICTS



Source: SUFP statistics

Since the SUFP data did not include a period before the project started and it would be very time-consuming to disaggregate the district data, it is not possible to see the initial impact of scaling up from these data. However, the data indicate that there were steady numbers of clients through the 2 years when the project was functioning and that there was a switch from condoms to implants. The sustained, high level of LARC CYP (59% of all CYP) means that significant numbers of women were covered during that time.[21]

4.1.3 Comparison of Results in SUFP-Supported Districts Across Three Phases Using SUFP Data

We also compared trends for the SUFP-supported districts across the three phases to see if there was any change in FP outputs and CYP. For this we compared the average CYP per district for the seven Phase 1 districts (started between October 2012 and April 2013) with averages of three sample districts from Phase 2

this method. In the case of implants, for example, where resupply is as much as 5 years after the previous supply, re-visits are likely to be mostly existing FP clients who switched to implants.

[20] SUFP has commented that IUCD uptake has been very low in general for reasons that include lack of equipment in some facilities and provider and client attitudes.

[21] Unfortunately the district population figures were not considered reliable and consistent over the two years due to the re-zoning. Otherwise it would be useful to estimate the coverage rate trends for LARCs.

(started August and September 2013) and three sample districts from Phase 3 (started May and June 2014).[22]

The comparison shows that the numbers of CYP for new acceptors for the average of the seven Phase 1 districts declined from around 2,300 in April-June 2013 to under 1,100 in January-March 2015 **(Figure 4)**.[23] It is likely that some of the impact of the initial "camping approach" had already been felt, since SUFP started activities before April 2013.

Project activities started in the Phase 2 districts in August and September 2013. In the three sampled districts from Phase 2, the average numbers of CYP for new acceptors increased dramatically from around 1,400 in October to December 2013 to just over 4,000 in April to June 2014 and then declined to around 2,900 in January to March 2015. It appears reasonable to assume that the increases related to some degree to the project activities started in August and September 2013.[24]

Project activities in the Phase 3 districts started in May and June 2014. The results for the three sampled Phase 3 districts do not show any significant change between April to June 2014 and January to March 2015.

The pattern is similar for re-visits,[25] with the average of the seven Phase 1 districts steady at a district average of between 1,500 and 1,800 CYP per quarter, dramatic increases for the CYP in the sample of Phase 2 districts, and steady figures of 1,800 CYP for the sample of Phase 3 districts **(Figure 5)**.

The average monthly numbers of LARCs mainly follow the same pattern as the CYP **(Figures 6 and 7)**. It is interesting to note the rapid increase in new FP users who selected LARCs in the sampled Phase 2 districts. It went up to an average of almost 600 per district in January-March 2014, with an increase to approximately 160 repeat FP users switching to LARCs in the same quarter.

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Project activities in the Phase 3 districts started in May and June 2014. The results for the three sampled Phase 3 districts do not show any significant change between April to June 2014 and January to March 2015.

[22] There was not sufficient time to compile the figures for all the Phase 2 and Phase 3 districts and so samples were selected. The sample districts from Phase 2 were selected from 3 provinces that were not covered in the first Phase – Western, Central and Southern. Within those 3 provinces we selected 3 districts – Mongu, Kabwe and Choma - where the project started later in Phase 2 to provide more time separation from Phase 1. The sample from the six Phase 3 districts was selected from North Western, Luapulu and Eastern provinces and comprised Chavuma, Mwense and Petauke Districts. With the inclusion of these three Phase 2 and three Phase 3 districts, at least one district from each province was included. The full list of SUFP supported districts can be found in Annex 1.

[23] Note that the zero points in the graphs merely indicate that we did not have SUFP data for those quarters and not that no services were provided.

[24] It is important to note that the camping approach was implemented over a period of months since it was rolled out across the health centers with a planned period of two weeks at each one.

[25] Figures for re-visits for LARCs are, reportedly, mostly existing clients who change their method to implants or IUCDs.

The pattern is similar for re-visits, with the average of the seven Phase 1 districts steady at a district average of between 1,500 and 1,800 CYP per quarter, dramatic increases for the CYP in the sample of Phase 2 districts, and steady figures of 1,800 CYP for the sample of Phase 3 districts **(Figure 5)**.

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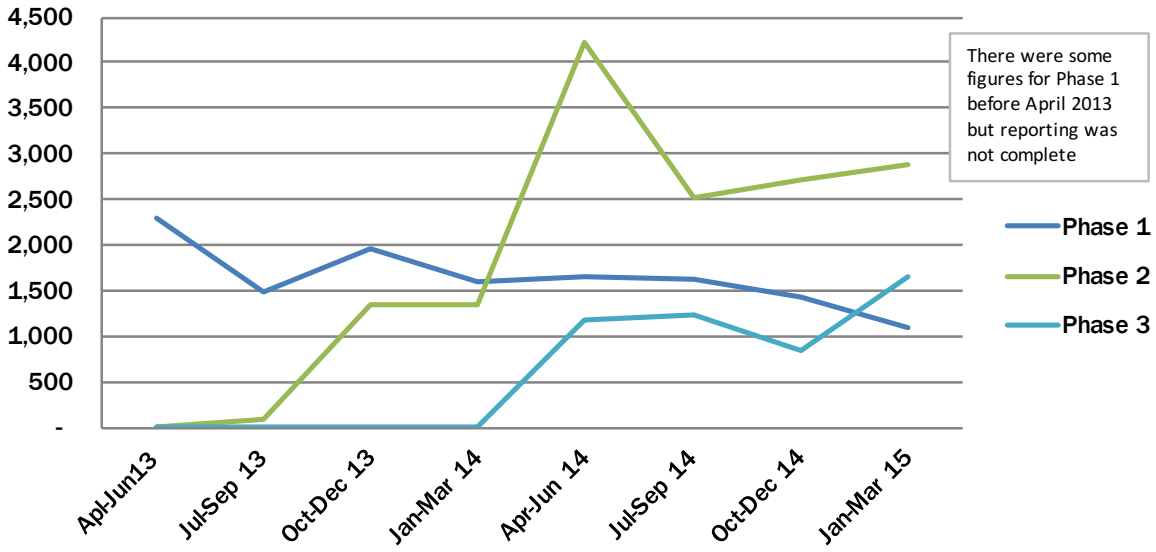
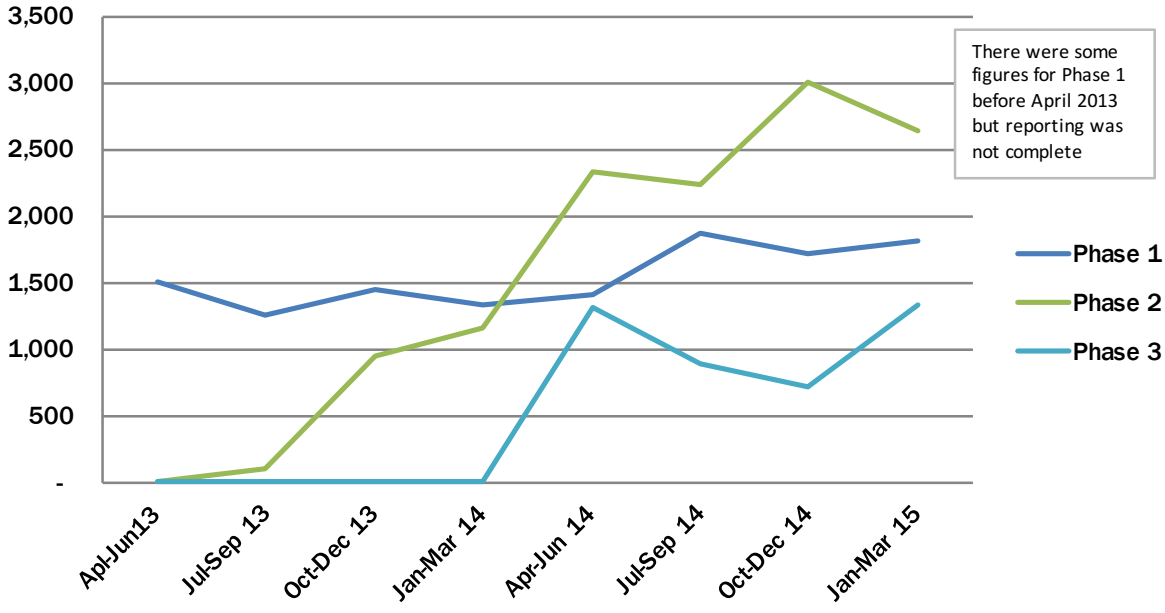
FIGURE 4 | AVERAGE CYP PER DISTRICT FOR THE THREE PHASES OF SUFP IMPLEMENTATION – NEW ACCEPTORS



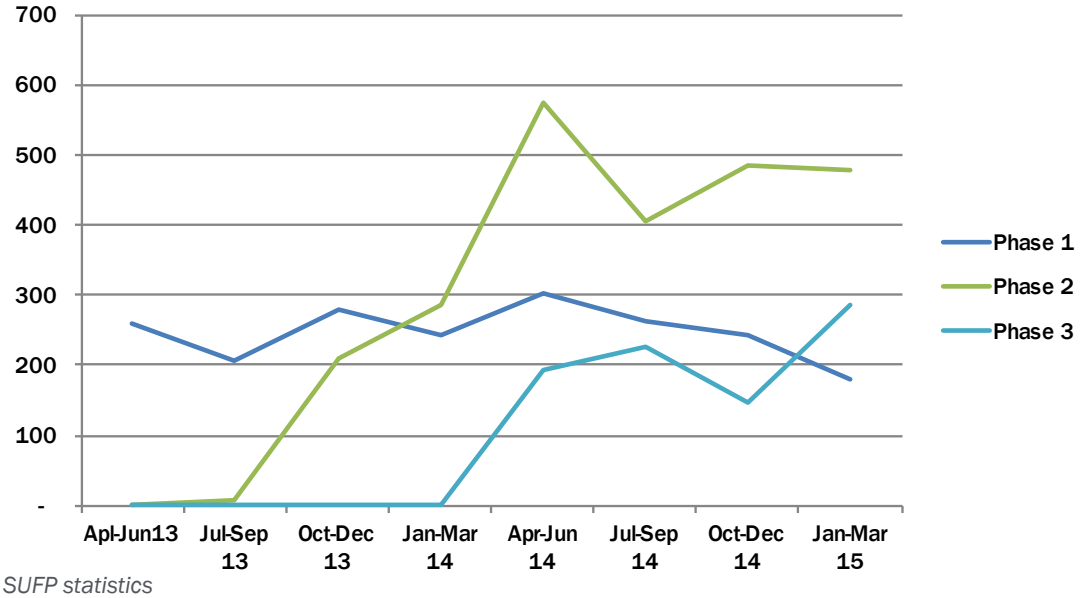
Source: SUFP statistics

FIGURE 5 | AVERAGE CYP PER DISTRICT FOR THE THREE PHASES OF SUFP IMPLEMENTATION – RE-VISITS



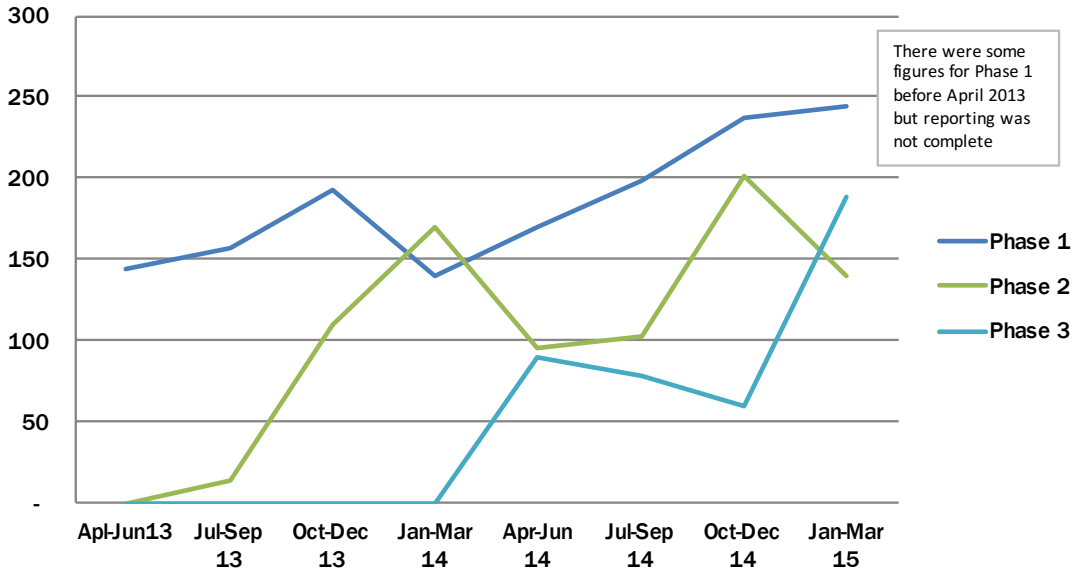
Source: SUFP statistics

FIGURE 6 | AVERAGE LARCS PER DISTRICT FOR THE THREE PHASES OF SUFP IMPLEMENTATION – NEW ACCEPTORS



Source: SUFP statistics

FIGURE 7 | AVERAGE LARCS PER DISTRICT FOR THE THREE PHASES OF SUFP IMPLEMENTATION – RE-VISITS



Source: SUFP statistics

In conclusion, the comparison of results across the three phases indicates that the seven Phase 1 districts may have already reached quarterly peaks by the April to June 2013 quarter, but remained steady in terms of numbers of new and repeat attendances after that. The sample of Phase 2 districts showed dramatic increases in both new and re-attendances that appear to be related to SUFP project efforts. The sample of Phase 3 districts does not show any significant gains in numbers, though an increase could have occurred in the first month, since we did not have figures for the period before the project started. The reasons for the different trends are not clear.

The trends suggest that the replication of the scaling-up package may have been successful in the Phase 2 districts, but less successful in the Phase 3 districts due to lack of time.

4.1.4 Results of Micro Analysis in Kasama and Katete Districts Using MCDMCH Data

During the visits to Kasama and Katete Districts, the MSH team was able to get annual data for individual facilities for 2011-2014 for Kasama and 2012-2014 for Katete from the MCDMCH District Information Officers. This permitted comparisons of data before and during the SUFP project for the facilities that the project supported.[26]

Trends in the utilization data from Kasama District indicate that changes occurred between 2012 (the year before SUFP started[27]) and 2014 (the year after) **(Table 4)**. Over that period new attendances increased by 9% and revisits increased by 24%.[28] The number of implants increased by 87%, Depo-Provera injections increased by 54%, and oral pill cycles increased by 40%. On the other hand, numbers of IUCDs, Noristerat injections, and Progesterone-only pills declined. The number of implants increased significantly from 2012 to 2013 (the year that SUFP implemented the camping approach), but declined in 2014, although to a higher level than in 2012. The increase from 2012 to 2013 was much higher than the increase from 2011 to 2012. Numbers of CYP followed the same pattern as the numbers of services **(Table 5)**.

The data from Katete District also shows some significant changes between the baseline period and the introduction of the project in June 2013. Between 2012 and 2014, the number of attendances for new acceptors increased by 10% and the number of revisits increased by 112%. The total number of CYP for methods excluding condoms increased by 288% (from 5,574 to 21,644), mostly due to large increases in the numbers of implants (1,549%). The number of IUCDs increased significantly in 2013 but declined in 2014.

TABLE 4 | KASAMA DISTRICT – FAMILY PLANNING SERVICES PROVIDED IN FACILITIES AND VILLAGES FOR 2011-2014 (CONDOMS NOT INCLUDED)

	2011	2012	2013	2014	CHANGES 2012-2014
New attendances	**6,481**	**7,267**	**7,984**	**7,896**	**9%**
Revisits	**14,629**	**25,937**	**35,901**	**32,197**	**24%**
IUCDs	405	525	1,216	314	-40%
Implants	1,510	1,871	5,225	3,506	87%
Depo-Provera	10,868	13,503	22,046	20,837	54%
Noristerat	784	1,175	625	496	-58%
Oral Pill Cycle	6,028	4,949	6,257	6,908	40%
Progesterone only pill cycle	1,502	654	726	476	-27%
Sterilisation female	3	6	28	42	600%
Sterilisation male	6	0	0	0	N/A

Source: District MCDMCH records.

[26] It should be noted that the figures provided by the MCDMCH for the facilities supported by SUFP were generally higher than the figures reported by SUFP for the same facilities in 2014. This may be because of different counting methods used, as described earlier.

[27] SUFP started in December 2012, so almost all of 2012 was prior to the start.

[28] Significant increases in attendances also occurred from 2011 to 2012 so we cannot be sure that the increases from 2012 to 2014 are entirely due to project activities.

TABLE 5 | KASAMA DISTRICT – CYP PROVIDED IN FACILITIES AND VILLAGES FOR 2011-2014 (CONDOMS NOT INCLUDED)

	CYPs 2011	CYPs 2012	CYPs 2013	CYPs 2014	CHANGE 2011/12	CHANGE 2012/13	CHANGE 2013/14	CHANGE 2012/14	ADDITIONAL CYPs 2012/14	
New attendances										
Revisits										
IUCDs	1,863	2,415	5,594	1,444	30%	132%	-74%	-40%	-971	*
Implants	5,738	7,110	19,855	13,323	24%	179%	-33%	87%	6,213	*
Depo-Provera	43,472	54,012	88,184	83,348	24%	63%	-5%	54%	29,336	/
Noristerat	4,704	7,050	3,750	2,976	50%	-47%	-21%	-58%	-4,074	/
Oral Pill Cycle	90,420	74,235	93,855	103,620	-18%	26%	10%	40%	29,385	/
Progesterone only pill cycle	22,530	9,810	10,890	7,140	-56%	11%	-34%	-27%	-2,670	/
Sterilisation female	30	60	280	420	100%	367%	50%	600%	360	*
Sterilisation male	60	0	0	0	-100%	NA	NA	NA	0	*
Total CYPs	**168,817**	**154,692**	**222,408**	**212,271**	**-8%**	**44%**	**-5%**	**37%**	**57,579**	

Source: District MCDMCH records.

TABLE 6 | KATETE DISTRICT – FP SERVICES AND CYP PROVED IN FACILITIES AND VILLAGES FOR 2012-2014

		SUFP SUP-PORTED	SUFP SUP-PORTED	CHANGE 2012-2013	CHANGE 2013-2014	CHANGE 2012-2014	TOTAL CYP	TOTAL CYP	TOTAL CYP
YEAR	**2012**	**2013**	**2014**				**2012**	**2013**	**2014**
Attendance family planning (New acceptors)	7,715	7,387	8,523	-4%	15%	10%			
Attendance family planning (Revisit)	18,675	27,215	39,628	46%	46%	112%			
Attendance family planning (Other)	-	2,139	1,109		-48%				
Total - Attendance family planning	**26,390**	**36,741**	**49,260**	**39%**	**34%**	**87%**			
METHODS									
Male Condoms (# of pieces issued)	83,616	84,268	100,339	1%	19%	20%			
Female Condoms (# of pieces issued)	303	844	289	179%	-66%	-5%			
Combined Oral contraceptives (# of cycles issued)	12,017	12,664	13,796	5%	9%	15%	801	844	920
Progesterone only pill (# of cycles issued)	1,585	2,929	285	85%	-90%	-82%	106	195	19
Medroxyprogesterone injection	13,744	25,696	37,182	87%	45%	171%	3,436	6,424	9,296
Norethisterone enanthate injection	2,487	1,097	1,745	-56%	59%	-30%	415	183	291
Implant	175	547	2,885	213%	427%	1549%	665	2,079	10,963
IUCD inserted	33	340	34	930%	-90%	3%	152	1,564	156
Sterilisation - female	-	2	3		50%				
Sterilisation - male	-	-	-						
Total CYPs							**5,574**	**11,289**	**21,644**

Source: District MCDMCH records.

In conclusion, the MCDMCH data from SUFP-supported facilities in Kasama and Katete shows increases in attendances and CYP after the project started, with high increases in the numbers of implants and Depo-Provera injections in both districts and smaller increases in oral contraceptives.[29] These results indicate that the initiation and roll-out of the scaling-up package of activities within the two districts was successful.

4.2 RESULTS OF COMPARISON OF TRENDS FOR SUFP AND NON-SUFP DISTRICTS USING MCDMCH DATA

The team obtained MCDMCH data for 95 districts covering monthly district-level numbers of family planning visits, by method, from 2012 to 2014 (January to December for each year).[30] These figures are supposed to cover all FP services provided in the districts, including those provided by NGOs. The structure of the data reported by the MCDMCH is somewhat different from that that reported by SUFP. The MCDMCH data for condoms is the number of condoms (not the number of client visits for condoms) and the number for oral contraceptives is the number of cycles (not the number of client visits seeking oral contraceptives).[31] In addition, the MCDMCH data is not split into new visits and revisits by method, only in total, whereas these figures are separated in the SUFP reports.

The MSH team combined the 95 MCDMCH district datasets into a single spreadsheet for easier manipulation. We then summarized and compared the data for three sub-sets of districts: 69 districts not assisted by SUFP, the 26 districts assisted by SUFP, and a subset of six districts assisted by SUFP where there was reportedly no other organizations assisting the Government.[32]

The total figures for all the 95 districts in the database showed that CYP increased by 102% from 2012 to 2014, with the main contributors being implants (265%), Depo-Provera (69%), and IUCDs (46%) **(Table 7)**.

We repeated the analysis for the 26 districts supported by SUFP **(Table 8)** and compared the results with the figures for the 69 districts not supported by SUFP **(Table 9)**. This is a somewhat crude comparison, since the SUFP support started at different times in different districts. However, for these 26 districts the number of CYP increased by 150% from 2012 to 2014. The main contributors were implants (456%), Depo-Provera (78%), and male condom users (35%). The number of IUCDs increased by 6%.

In the 69 districts not supported by SUFP, the number of CYP increased by 84% from 2012 to 2014. The main contributors were implants (187%) Depo-Provera (66%), and IUCDs (59%). The number of male condom users declined by 5%.

The increases in CYP and implants were significantly higher for the 26 SUFP-supported districts than for the districts not supported by SUFP.

[29] Although as noted previously there was also a significant increase in Kasama from 2011 to 2012 so we cannot be sure how much the increases from 2012 to 2014 can be attributed to the SUFP Project.
[30] This was the total number of restructured districts at the time the reports were provided to us. For some reason the 95 reports did not include the districts that comprise Lusaka Provide and we were unable to obtain these reports from the MCDMCH.
[31] The corresponding figures in the SUFP reports are numbers of client visits in both cases.
[32] 72 districts were listed in the Zambia CIP (presented in August 2013). We recognize that the restructuring of the districts could have affected the reporting over the selected years but did not have opportunity to review this with the MCDMCH.

TABLE 7 | FAMILY PLANNING SERVICES PROVIDED FOR ALL DISTRICTS (EXCEPT LUSAKA PROVINCE) – 2012-2014 (FIGURES BY METHOD ARE COMBINED NEW AND RE-VISITS)

	2012 TOTAL	2013 TOTAL	2014 TOTAL	CYP RATE	2012 CYPS	2013 CYPS	2014 CYPS	CHANGE 2012-13 CYPS	CHANGE 2013-14 CYPS	CHANGE 2012-14 CYPS
Attendances New	**418,805**	**449,574**	**494,896**							
Attendances Revisits	**1,185,185**	**1,439,563**	**1,814,820**							
Female condoms distributed	160,542	141,842	162,088	120	1,338	1,182	1,351	-12%	14%	1%
IUCD inserted	10,010	15,087	14,602	4.6	46,046	69,400	67,169	51%	-3%	46%
Implant	36,516	71,210	133,118	3.8	138,761	270,598	505,848	95%	87%	265%
Male condoms distributed	7,701,092	7,417,487	8,229,680	120	64,176	61,812	68,581	-4%	11%	7%
Depo-Provera	880,029	1,194,951	1,487,590	4	220,007	298,738	371,898	36%	24%	69%
Noristerat	91,308	83,336	105,337	6	15,218	13,889	17,556	-9%	26%	15%
Oral pill cycle	526,485	476,168	538,038	15	35,099	31,745	35,869	-10%	13%	2%
Progesterone only pill	81,858	81,392	41,671	15	5,457	5,426	2,778	-1%	-49%	-49%
Sterilisation female	1,694	1,766	2,670	10	16,940	17,660	26,700	4%	51%	58%
Sterilisation male	277	898	722	10	2,770	8,980	7,220	224%	-20%	161%
Total CYPs					**543,042**	**770,450**	**1,097,750**	**42%**	**42%**	**102%**

Source: District MCDMCH records.

TABLE 8 | FAMILY PLANNING SERVICES PROVIDED FOR 26 DISTRICTS SUPPORTED BY SUFP - 2012-2014 (FIGURES BY METHOD ARE COMBINED NEW AND RE-VISITS)

	2012	2013	2014	CYP RATE	2012	2013	2014	CHANGE 2012-13	CHANGE 2013-14	CHANGE 2012-14
Attendances New	**119,520**	**137,983**	**161,738**							
Attendances Revisits	**327,281**	**430,609**	**574,536**							
Female condoms distributed	46,439	46,324	77,876	120	387	386	649	0%	68%	68%
IUCD inserted	2,494	3,057	2,637	4.6	11,472	14,062	12,130	23%	-14%	6%
Implant	10,479	29,191	58,271	3.8	39,820	110,926	221,430	179%	100%	456%
Male condoms distributed	2,219,990	2,458,717	3,001,484	120	18,500	20,489	25,012	11%	22%	35%
Depo-Provera	238,691	346,442	424,432	4	59,673	86,611	106,108	45%	23%	78%
Noristerat	22,964	19,330	24,393	6	3,827	3,222	4,066	-16%	26%	6%
Oral pill cycle	131,536	141,832	161,005	15	8,769	9,455	10,734	8%	14%	22%
Progesterone only pill	25,256	24,913	12,953	15	1,684	1,661	864	-1%	-48%	-49%
Sterilisation female	962	400	542	10	9,620	4,000	5,420	-58%	36%	-44%
Sterilisation male	98	65	24	10	980	650	240	-34%	-63%	-76%
Total CYPs					**154,732**	**251,462**	**386,652**	**63%**	**54%**	**150%**

Source: District MCDMCH records.

TABLE 9 | FAMILY PLANNING SERVICES PROVIDED FOR 69 DISTRICTS NOT SUPPORTED BY SUFP - 2012-2014 (FIGURES BY METHOD ARE COMBINED NEW AND RE-VISITS)

	2012	2013	2014	CYP RATE	2012	2013	2014	CHANGE 2012-13	CHANGE 2013-14	CHANGE 2012-14
Attendances New	**299,285**	**311,591**	**333,158**							**11%**
Attendances Revisits	**857,904**	**1,008,954**	**1,240,284**							**45%**
Female condoms distributed	114,103	95,518	84,213	120	951	796	702	-16%	-12%	-26%
IUCD inserted	7,516	12,030	11,965	4.6	34,574	55,338	55,039	60%	-1%	59%
Implant	26,037	42,019	74,847	3.8	98,941	159,672	284,419	61%	78%	187%
Male condoms distributed	5,481,102	4,958,770	5,228,196	120	45,676	41,323	43,568	-10%	5%	-5%
Depo-Provera	641,338	848,509	1,063,158	4	160,335	212,127	265,790	32%	25%	66%
Noristerat	68,344	64,006	80,944	6	11,391	10,668	13,491	-6%	26%	18%
Oral pill cycle	394,949	334,336	377,033	15	26,330	22,289	25,136	-15%	13%	-5%
Progesterone only pill	56,602	56,479	28,718	15	3,773	3,765	1,915	0%	-49%	-49%
Sterilisation female	732	1,366	2,128	10	7,320	13,660	21,280	87%	56%	191%
Sterilisation male	179	833	698	10	1,790	8,330	6,980	365%	-16%	290%
Total CYPs					**391,079**	**527,969**	**718,318**	**35%**	**36%**	**84%**

Source: District MCDMCH records.

Finally we repeated the same analysis for 6 districts that were not supported by any other organizations.[33] This was to try to remove the influence of other projects. Again, the SUFP support in these six districts started at different times and so the comparisons are somewhat crude. For these six districts, the number of CYP increased by 227% from 2012 to 2014 **(Table 10)**. The number of implants increased by 965% and the number of IUCDs increased by 7,425%.[34] The increases in CYP and implants were significantly higher than the increases in the 26 SUFP-supported districts and higher than in all the districts. The picture for IUCDs is different, with the figures for the six districts higher than for the 26 districts but the figure for the 26 districts lower than the figure for the 69 districts without SUFP support. It is important to note that, due to different start-up dates for SUFP support to the districts, these increases may reflect both increases over time in Phase 1 districts and the addition of new districts in Phases 2 and 3.

A summary of the comparison is provided in **Table 11**. This shows that the numbers of attendances and CYP in the 6 districts with exclusive SUFP support appears to have increased at a higher rate than for all 26 SUFP-supported districts, and that the 26 SUFP-supported districts appears to have increased at a higher rate than districts not supported by SUFP. This may be partly explained by the fact that the districts supported by SUFP were selected because they had low rates of FP utilization in 2012. The same trend can be seen for implants, but not for IUCDs or Depo-Provera.

[33] According to the Government's Family Planning Services Integrated Family Planning Scale-up Plan 2013–2020. The 6 districts and the SUFP start dates are: Kaputa – November 2012, Kabompo - April 2013, Mpulungu – April, 2013, Siavonga – June 2013, Sesheke – April 2014, and Chavuma – April 2014.

[34] The number of IUCDs in 2012 was reportedly very low in these districts.

TABLE 10 | FAMILY PLANNING SERVICES PROVIDED FOR SIX DISTRICTS SUPPORTED ONLY BY SUFP – 2012-2014 (FIGURES BY METHOD ARE COMBINED NEW AND RE-VISITS)

	2012	2013	2014	CYP RATE	2012	2013	2014	CHANGE 2012-13	CHANGE 2013-14	CHANGE 2012-14
Attendances New	**12,428**	**19,348**	**21,139**							
Attendances Revisits	**28,735**	**38,126**	**52,849**							
Female condoms distributed	1,358	6,424	6,076	120	11	54	51	373%	-5%	347%
IUCD inserted	4	57	301	4.6	18	262	1,385	1325%	428%	7425%
Implant	414	3,125	4,411	3.8	1,573	11,875	16,762	655%	41%	965%
Male condoms distributed	150,122	210,685	344,829	120	1,251	1,756	2,874	40%	64%	130%
Depo-Provera	25,003	33,709	40,338	4	6,251	8,427	10,085	35%	20%	61%
Noristerat	1,548	2,225	2,105	6	258	371	351	44%	-5%	36%
Oral pill cycle	7,074	11,330	15,182	15	472	755	1,012	60%	34%	115%
Progesterone only pill	1,900	2,247	2,571	15	127	150	171	18%	14%	35%
Sterilisation female	7	9	10	10	70	90	100	29%	11%	43%
Sterilisation male	4	-	-	10	40	-	-	-100%		-100%
Total CYPs					**10,031**	**23,740**	**32,789**	**137%**	**38%**	**227%**

Source: District MCDMCH records.

TABLE 11 | COMPARISONS OF INCREASES IN FAMILY PLANNING SERVICES IN DISTRICTS

INCREASES	NEW ATTENDANCES	RE-VISITS	IUCDS	IMPLANTS	DEPO-PROVERA	CYP
All districts	18%	53%	46%	265%	69%	102%
Districts without SUFP support	11%	45%	59%	187%	66%	84%
All 26 districts with SUFP support	35%	75%	6%	456%	78%	150%
6 districts supported only by SUFP	70%	83%	7,425% (from 4 to 301)	965%	61%	227%

Source: District MCDMCH records.

SUPPORTED BY SUFP WITH SERVICES PROVIDED IN OTHER DISTRICTS (2012-2014)

In conclusion, while these are crude comparisons because SUFP support started at different times in districts and because they did not always cover all facilities, the figures indicate that SUFP had a positive influence on numbers of FP services in the districts where they provided support. This could be a direct influence in terms of increased numbers of services at facilities and related villages that SUFP supported, and it could also be an indirect benefit from the SUFP support provided at the district level – notably the managerial and logistical support for supervision, outreach and supply chain.[35]

[35] SUFP reported that in some districts some of the other organizations provided assistance with family planning were actually scaling down during the period of the project and the total increases in MCDMCH data may have been more attributable to SUFP-supported facilities.

4.3 SUMMARY OF ANALYSIS OF SUFP AND MCDMCH DATA

The analysis of SUFP and MCDMCH data indicates that the implementation of the scaling-up package of activities in the districts and the replication across districts were successful and also that gains made were largely maintained through the end of the project. The interventions appear to have contributed to increases in numbers of family planning clients in general and in LARCS in particular, resulting in major increases in CYP.

While the initial training, demand creation and strengthened outreach interventions are likely to have played a major role in the positive results achieved, it is also important to recognize the role of the project in supporting the districts in terms of managerial and financial support provided for outreach and supervision and also for improving commodity supply logistics.

5. Micro Analysis Findings

The micro analysis involved visits by the study team to two districts – Kasama and Katete – to collect detailed costing data and to conduct interviews with the district leadership, providers, and CBDs. These interviews also provided information on bottlenecks which impede performance and result in higher unit costs and/or reduced outputs or impact.

Descriptions of the project activities and details of the findings of the two visits are provided in Annexes 2 and 3. These were obtained through a series of interviews with managers and providers. A summary of the key findings from the two districts is provided below.

Although project activities in the two districts were regarded by interviewees as having been successful, they identified a number of bottlenecks that sometimes occurred. These bottlenecks are likely to have reduced the impact of the project, and while some of them related to reduced costs, they would also have contributed to lower results. The bottlenecks identified were the following:

- **Myths and misconceptions.** Misconceptions about family planning continue to exist, particularly those related to side effects (e.g. that a method may cause cancer and infertility).
- **Lack of reliable information.** Despite increased awareness and access to family planning methods, some women still do not receive this information or, if they do, they are not able to make decisions for themselves as they are often controlled by their husbands.
- **Seeking services**. Some women are still too shy to come to the clinic to receive FP. Husbands often are aware of the days when the facility provides FP so women who do not want their husband to know they are using FP do not come on those days. Some women come back asking for their insertions to be removed because they did not consult with their husbands and their husbands make them remove them.
- **Service provision.** Long-acting family planning methods (e.g. implants, IUCDs, sterilizations) are only provided at health facilities, which are located very far from some communities.[36]
- **Funding.** Health facilities report infrequent community outreach due to lack of transport or funding for transport (petrol) provided by the MCDMCH district offices.
- **Inconsistent SUFP support/incentives to MCDMCH staff and CBDs.** Initial support and incentives for activities such as outreach and meetings were not maintained, so staff motivation declined. Also, there were not sufficient bicycles for all the CBDs and those who did not receive them were demotivated.
- **Commodities.** Several CBDs reported that short-term methods were sometimes unavailable at the community level.
- **Provision of FP services.** While all facility staff were trained on providing IUCDs, implants and sterilization, very few of these services were actually provided at the facilities, due to lack of demand and lack of sterilization equipment and beds at the facility.
- **Attrition of CBDs.** In Kasama, about 50% of the 84 trained CBDs (including 10 depot holders) discontinued their CBD role over the two and a half year project period, partly due to the lack of incentives and insufficient bicycles. In Katete, 18 of the original 56 CBDs stopped working during the two years of the project.

[36] Other comments indicate that equipment for IUCDs was not always available.

- **Staff shortages.** There are staff shortages at the health facilities and therefore staff cannot frequently participate in the "camping," although they do participate in integrated (immunization, antenatal care, and FP) outreach visits. Due to limited budgets of SUFP, only a certain number of facility staff and CBDs participate in trainings.
- **Cross-border demand.** Several health facilities in Katete district are located along the border of Mozambique, and Mozambiquans frequently seek services at Katete health facilities. Consequently, the demand for FP is under strain by populations not reflected in the district census data.
- **Sustainability.** SUFP staff believe that the uptake and benefits of FP will continue, and some FP outreach activities have been integrated with recurring immunization and ANC outreach visits at outreach posts. SUFP has also initiated mentorship programs under which experienced health facility staff and CBDs are supposed to mentor less experienced providers, although this has not been district-wide. However, concerns have been expressed that outreach and supply chains may suffer when SUFP support is no longer there. For example, the numbers of supported outreaches reportedly reduced significantly towards the end of the project, which may have been due to limited financial resources. And the attrition of CBDs means that community-level support may diminish.

6. Costs

6.1 SUFP COSTS PER DISTRICT

SUFP project funds were spent in the following cost areas:

- The camping approach (expenditures made by SUFP Lusaka Office – initially in advance of the DOC placement)
- Operating support to districts made through the DOCs (18 months)
- The salary of the DOCs (18 months)

On average the cost of implementing the camping approach for one district was ZMW 336,475 (USD 46,092) **(Table 12)**.[37] This is comprised of ZMW 27,132 (USD 3,717) for staff travel and per diem, ZMW 294,558 (USD 40,350) for travel and per diem costs for GRZ staff, trainers, and participants, and ZMW 14,785 (USD 2,025) for other costs (facility rental, stationery, and so forth). Support for an 18 month period after the camping was approximately ZMW 239,875 (USD 32,860), plus the salary of the project district coordinator for 18 months, which was estimated at ZMW 52,500 (USD 7,192) (representing 50% of total remuneration for covering 2 districts).[38] See a full list of district support expenditures in Annex 4. Some of the support costs were reportedly for addressing district-level bottlenecks, such as financing repairs and fuel for vehicles needed for resupply of commodities and supervision, but these figures could not be separated. The annual expenditures for the year April 2014 to March 2015 indicate that the average expenditure per district was similar for the Phase 2 and Phase 3 districts, although they were slightly higher than the average for the Phase 1 districts. However, the Phase 1 districts were more mature by that time and may have needed less funding.

TABLE 12 | AVERAGE EXPENDITURE FOR CAMPING AND SUPPORT PER DISTRICT (2014-2015) (ZMW)

	INITIAL INVESTMENT	ONGOING SUPPORT (18 MONTHS)	ONGOING SUPPORT (ANNUALIZED)
ACTIVITIES	**ZMW**	**ZMW**	**ZMW**
Camping approach	336,475		
District support		239,875	159,916
District Outreach Coordinator Salary (50%)		52,500	35,000
TOTAL	**336,475**	**292,375**	**229,916**

[37] The old currency, expressed as ZMK, was rebased on 1 January, 2013 to ZMW. 1,000 ZMK became 1 ZMW. Note that figures are still commonly stated as ZMK.

[38] According to SUFP District Coordinators did not have uniform salary scales. Their salaries were based on their individual salary histories, their relevant work experiences and educational qualifications. Their employment start and end dates, just like the number of districts they managed, also varied.

According to SUFP, the scale and scope of project activities were mainly determined by the available budget. So the available funding determined the numbers of providers to be trained in LARC provision and the number of trainers used; the numbers of CBDs trained; the number of drama groups and members to be trained; the number of traditional leaders, clergy, and other leaders of community groups to be oriented in FP; the number of community mobilization meetings to be conducted during the camping period; and the number of communities to be reached for community mobilization meetings during the camping period.

SUFP data shows that the coverage of villages by SUFP-assisted outreach was less in the later stages of the project – 58% for the Phase 3 districts compared with 75% in Phase 2 and 80% in Phase 1.[9] Also, fewer people were trained in Phase 2 of the project than in Phase 1 and in Phase 3 - an average per district of 15 LARC providers and 50 CBDs per district in Phase 2, compared with 20 LARC providers and 68 CBDs in Phase 3, and 21 LARC providers and 119 CBDs in Phase 1. There were slightly fewer facilities on average in the Phase 2 districts, which can account for fewer LARC providers trained, but the greatly reduced number of CBDs trained in Phase 2 and Phase 3 is not accounted for by the slightly smaller number of villages. Since the expenditures do not seem to have been reduced in Phases 2 and 3, it is not known why there were reduced numbers of outreaches and CBDs trained, although lower population density and greater distances could be factors.

The SUFP expenditures do not, however, cover all external resource needs. For example, the cost of refresher training and training and equipping of replacement CBDs and MCDMCH staff were not included. With reported high CBD attrition rates, the costs of identifying, training, and equipping replacements would need to be budgeted on an annual basis. Alternatively, a system of financial incentives for CBDs may be needed, and those costs would also have to be included and financed.

6.2 TOTAL DISTRICT COSTS

6.2.1 Cost Modeling

In the previous section, we examined only SUFP project expenditures, whereas in this section we look at total costs for FP activities, irrespective of who funds them. Assuming that there are no donors involved, these are the costs that would need to be covered by the Government if project district-level interventions are to be continued in SUFP-supported districts and scaled up to other districts.

In order to estimate the total costs, the MSH team collected data from the two sample districts on FP service costs and FP service outputs. The total costs are normative (although based on actual costs) and are intended to reflect the resources that are needed, which may be different from the resources actually used. These total costs take into account activities and resources that are, or should be, provided by the MCDMCH and also the activities and resources that have been provided by the SUFP project.

The costs were modeled using the Family Planning Cost and Finance Modeling Tool, a dynamic cost modeling tool developed by MSH based on USAID's Integrated Community Case Management (iCCM) Costing and Financing Tool.[39]

The service input costs were estimated for 2013 and 2014 and costs were projected for the years 2015 – 2019.[40]These projections would be the estimated cost of maintaining project activities in the district with

[39] http://www.msh.org/resources/integrated-community-case-management-costing-financing-tool
[40] The tables shown in this document do not show the projected years of 2018 and 2019 so that figures shown are more easily legible.

a target of increasing coverage by 4.4% per year. Inflation was not included because it is easier to compare changes in costs over time without it (though it is built into the tool so can be added easily).

The costs shown are financial costs only and do not include economic costs, such as the opportunity cost of engaging the CBDs, who are volunteers. Note also that these figures do not include MCDMCH indirect costs, such as the general costs of running the district office.

The results shown below are for Kasama District. The results for Katete District are similar and are not shown in the interest of saving space in the report.

When reviewing the results, it is important to bear in mind that total costs are a function mainly of fixed costs (management, supervision, meetings) and variable costs (commodities, supplies, and provider remuneration), which depend on the numbers of clients and the mix of methods (as well as commodity prices and salary levels).[41]

6.2.2 Kasama District Total Costs

Actual numbers of services and normative costs were used to estimate the total district-level costs for 2014. To estimate the numbers of services, the MSH team took the SUFP service figures and extrapolated them to cover all facilities, assuming that the ratio of services per facility was the same. The MSH team included the district hospital in this ratio since the MCDMCH data did not show those figures.

Kasama District had a total of 264,108 people, of whom 23% were women of reproductive age (based on national averages). The district has 30 functioning health centers and health posts and one hospital. It has an estimated 237 villages.

The 2014 costs are based on the following assumptions:

- The interventions are implemented in all 30 primary health care (PHC) facilities and their related villages
- There is one CBD in each of the 237 villages and 17 of these are depot holders
- The training and camping is done at each of the 30 PHC facilities
- Equipment and training was provided to the hospital as well as the PHC facilities
- The CBDs did not receive any remuneration
- The district has a supervisor who spends 30% of his or her time on supervision of the FP service providers at the PHC facilities
- The SUFP DOC would be replaced by an equivalent level person (funded by the MCDMOH or donors) who would cover 2 districts and spend 50% of his or her time in each
- Other MCDMCH staff at the district and PHC facility would have a small role in FP services management
- Each PHC facility has one full-time equivalent employee (a nurse or midwife) who spends 100% of his or her time on supervision. That includes holding monthly meetings with the CBDs. 50% of that supervision time is used for family planning supervision. Supervision is combined with outreach

[41] Remuneration is calculated on a normative, per-service basis and it is assumed that time not used for family planning services is spent on other activities.

visits to the communities

- The figure for the cost of trainings and meetings was ZMW 220 (USD 35) per person/day for travel, per diem and food[42]
- Resupply of commodities and supplies is done through combined outreach/supervision visits, from depot holders, and through monthly meetings of CBDs at the PHC facilities

To estimate total costs for the projected years of 2015-2019, a number of additional key assumptions were made:

- 2.8% per year population growth
- 4.4% per year increase in numbers of women using family planning (in line with national targets)
- Annual increases of 20% in numbers of implants, 10% in IUCDs, and 5% in injectables and in sterilization, with no change in pills or condoms
- Annual refresher training for CBDs and facility-based FP service providers
- Replacement of equipment every 3 years
- Inflation was not included as it is easier to compare changes in costs over time related to scaling-up without inflation
- 25% of CBDs would drop out and would be replaced each year. The replacements would receive the initial FP service training and equipment

The total district-level cost of initiating the scaling-up package of activities (equipment, training, and the camping visits) in Kasama would be approximately ZMW 1.7 million (USD 282,000), based on 2014 costs **(Tables 13 and 14)**. This would comprise:

- ZMW 700,000 (USD 114,000) for equipment for the district office, health facilities, and CBDs
- ZMW 1.0 million (USD 161,000) for the initial training costs and "camping visits" (assuming one at each health center)

The recurrent costs would be approximately ZMW 4.9 million (USD 795,000), based on 2015 costs, service numbers, and method mix. A total of approximately 38,876 CYP would result from those numbers of services and method mix, giving an average recurrent cost for 2015 of ZMW 126 (USD 20) per CYP. Around 67% of the CYP would be from LARCs. The total start-up cost comes to an average of ZMW 29 (USD 4.74) per WRA, and the total recurrent cost for 2015 would be an average of ZMW 80 (USD 12.96) per WRA.

With the assumptions stated above, the total recurrent costs would increase to ZMW 5.0 million (USD 813,000) in 2016 and ZMW 5.2 million (USD 836,000) in 2017. In addition, it is assumed that equipment would need to be bought for replacement CBDs and other equipment would need to be replaced every three years. That would cost an additional ZMW 59,000 (USD 9,500) per year for replacement CBDs in 2015 and an additional ZMW 591,000 (USD 95,000) for replacing all equipment (district offices, facilities and other CBDs) in 2016. The increased recurrent cost per CYP in 2015 is due to the costs of training replacements and refresher training, reducing back in 2017 due to economies of scale and the increasing proportions of LARCs.

[42] This was obtained from SUFP project staff but seems high compared with costs for similar activities in other countries. Reductions in these costs would provide significant savings.

During the project period the CBDs were not remunerated. If the CBDs were each paid a remuneration of ZMW 2,000 (USD 322) per year, the total cost would increase by ZMW 474,000 (USD 76,500) per year (for 237 CBDs), but this would be partially offset by savings from not having to train and equip replacement providers and from reductions in losses in productivity due to changing of CBDs.[43]

TABLE 13 | KASAMA DISTRICT – TOTAL OUTPUTS AND COSTS OF SUFP SUPPORT AND MCDMCH FAMILY PLANNING SERVICES – 2014-2017 (ZMW)

	2014 ACTUAL	2015 PROJECTED	2016 PROJECTED	2017 PROJECTED
District Population in zones assisted by SUFP	264,108	271,503	279,105	286,920
Population growth		2.8%	2.8%	2.8%
Number of Women of Reproductive Age	59,670	61,341	63,058	64,824
Target growth		4.4%	4.4%	4.4%
Number of CYPs provided with support from SUFP	34,282.00	38,876	44,309	50,743
Start-up cost SUFP)	1,753,740			
Replacement equipment costs		59,250	591,000	59,250
Recurrent resources needed	3,950,023	4,928,873	5,046,541	5,185,508
Total resources used / needed	**5,703,763**	**4,988,123**	**5,637,541**	**5,244,758**
Average start-up, replacement and recurrent cost per CYP	**166.38**	**128.31**	**127.23**	**103.36**
Average recurrent cost per CYP	**115.22**	**126.79**	**113.90**	**102.19**

TABLE 14 | KASAMA DISTRICT – TOTAL OUTPUTS AND COSTS OF SUFP SUPPORT AND MCDMCH FAMILY PLANNING SERVICES – 2014-2017 (USD)

	2014 ACTUAL	2015 PROJECTED	2016 PROJECTED	2017 PROJECTED
District Population in zones assisted by SUFP	264,108	271,503	279,105	286,920
Population growth	-	0	0	0
Number of Women of Reproductive Age	59,670	61,341	63,058	64,824
Target growth	-	0	0	0
Number of CYPs provided with support from SUFP	34,285	38,880	44,313	50,749
Start-up cost (USD)	282,861	-	-	-
Replacement equipment costs (USD)	-	9,556	95,323	9,556
Recurrent resources needed (USD)	637,111	794,992	813,974	836,391
Total resources used / needed (USD)	**919,973**	**804,549**	**909,297**	**845,948**
Average start-up, replacement and recurrent cost per CYP (USD)	**26.83**	**20.69**	**20.52**	**16.67**
Average recurrent cost per CYP (USD)	**18.58**	**20.45**	**18.37**	**16.48**

[43] A cost-benefit analysis of remunerating CBDs would be a useful piece of research

In 2014 most of the CYP came from implants (57%), followed by injectables (16%) and IUCDs (10%) **(Table 15)**.

TABLE 15 | KASAMA DISTRICT – TOTAL CYP FROM SUFP SUPPORT AND MCDMCH FAMILY PLANNING SERVICES – 2014-2017

TOTAL CYPS BY METHOD	2014 ACTUAL	2015 PROJECTED	2016 PROJECTED	2017 PROJECTED	2014 ACTUAL SHARE
Pills	1,645	1,645	1,645	1,645	4.8%
Male condoms	3,351	3,351	3,351	3,351	9.8%
Female condoms	58	58	58	58	0.2%
Injectables	5,671	5,955	6,252	6,565	16.5%
Implants	19,751	23,701	28,441	34,129	57.6%
IUDs	3,394	3,733	4,107	4,517	9.9%
Sterilization - female	392	411	432	454	1.1%
Sterilization - male	21	22	23	24	0.1%
Total CYPs	**34,282**	**38,876**	**44,309**	**50,743**	**100.0%**

The average cost per CYP by method in 2014 ranged from ZMW 19 (USD 3.04) for male sterilization to ZMW 815 (USD 131.38) for female condoms **(Table 16)**. These are total costs, including staffing costs related to counselling as well as service provision.

TABLE 16 | KASAMA DISTRICT – AVERAGE COST PER CYP BY METHOD (ZMW)

COST PER CYP BY METHOD	2014 ACTUAL	2015 PROJECTED	2016 PROJECTED	2017 PROJECTED
Pills	254	333	324	313
Male condoms	403	574	556	537
Female condoms	815	980	961	941
Injectables	229	240	233	226
Implants	37	38	37	37
IUDs	30	18	17	16
Sterilization - female	22	24	23	22
Sterilization - male	19	20	20	19
Average cost per CYP	**115**	**127**	**114**	**102**

The highest numbers of CYP are likely to be achieved at the health center level, where there would be the greatest number of services and the full package of FP methods is provided, apart from sterilization **(Table 17)**. These figures are based on assumptions about the distribution of services across service levels, since the actual distribution in 2014 was not known.

TABLE 17 | KASAMA DISTRICT: BREAKDOWN OF SUFP-SUPPORTED CYP PER SERVICE LEVEL (BASED ON DISTRIBUTION ASSUMPTIONS)

CYPS PER SERVICE LEVEL	2014	2015	2016	2017
Community	2,163	1,011	1,011	1,011
Health Post	-	2,797	2,886	2,980
Health Centre Outreach	2,157	2,112	2,141	2,173
Health Centre Facility	18,312	26,022	30,266	35,306
Hospital	11,651	6,934	8,004	9,273
TOTAL CYPs	**34,282**	**38,876**	**44,309**	**50,743**

The highest costs would also be experienced at the health center level, since the package of services includes most services and the volumes are expected to be high **(Table 18)**.[44]

TABLE 18 | KASAMA DISTRICT: TOTAL DISTRICT COSTS BY SERVICE LEVEL (ZMW) (BASED ON DISTRIBUTION ASSUMPTIONS)

D3. RECURRENT COST BREAK-DOWN BY PROVIDER LEVEL	2014	2015	2016	2017
Community	738,564	655,475	633,109	609,602
% of Total Cost	19%	13%	13%	12%
Health Post	-	998,496	993,794	987,219
% of Total Cost	0%	20%	20%	19%
Health Centre Outreach	654,479	889,919	871,478	851,572
% of Total Cost	17%	18%	17%	16%
Health Centre Facility	1,615,438	1,738,120	1,867,726	2,017,791
% of Total Cost	41%	35%	37%	39%
Hospital	941,542	646,863	680,434	719,323
% of Total Cost	24%	13%	13%	14%
Total Recurrent Costs	**3,950,023**	**4,928,873**	**5,046,541**	**5,185,508**

[44] SUFP does not, reportedly, provide support for hospital level services but they are included here as they form part of total costs.

The highest cost category in 2014 would be for meetings (40%) since we assumed that these would be monthly and would be attended by CBDs who would receive travel and food costs **(Table 19)**.[45] Supervision would be the second highest category (20%), followed by commodities (17%). In the projected years, the cost of refresher and replacement training would become significant.

TABLE 19 | KASAMA DISTRICT: BREAKDOWN OF COSTS OF SUFP SUPPORT AND MCDMCH FAMILY PLANNING SERVICES – 2014-2017 (ZMW)

V. RECURRENT COST BREAK-DOWN BY CATEGORY (ZMW)	2014 ACTUAL	2015 PROJECTED	2016 PROJECTED	2017 PROJECTED
Commodities and Consumables	678,163	762,489	862,648	981,754
Commodities and Consumables %	17%	15%	17%	19%
Provider Direct Remuneration	367,480	393,335	410,843	430,704
Provider Direct Remuneration %	9%	8%	8%	8%
Provider Indirect Remuneration (Idle Capacity)	-	-	-	-
Provider Indirect Remuneration (Idle Capacity) %	0%	0%	0%	0%
Management	548,000	548,000	548,000	548,000
Management %	14%	11%	11%	11%
Supervision	771,000	771,000	771,000	771,000
Supervision %	20%	16%	15%	15%
Meetings	1,585,380	1,585,380	1,585,380	1,585,380
Meetings %	40%	32%	31%	31%
Training (Refresher)	-	801,620	801,620	801,620
Training (Refresher) %	0%	16%	16%	15%
Training (Replacements)	-	67,050	67,050	67,050
Initial training of replacement service providers %	0%	1%	1%	1%
Other Recurrent Program Costs	-	-	-	-
Other Recurrent Program Costs %	0%	0%	0%	0%
TOTAL	**3,950,023**	**4,928,873**	**5,046,541**	**5,185,508**

The total number of women of reproductive age in the district was estimated at 59,670 in 2014. Of this total, we estimate that 10% received LARCs in that year and 57% had protection as measured in CYP. The average cost of recurrent resources used in 2014 per WRA was ZMW 80 (USD 12.96).[46] With the projected changes mentioned above, the number of women of reproductive age using LARCs would increase to 16% in 2017 and 78% would have protection as measured in CYP.

[45] As noted earlier the rate used to calculate participant costs was obtained from SUFP staff and appears quite high compared with other countries.

[46] These figures depend largely on the family planning coverage rate.

It should be noted that these projections assume no bottlenecks, such as shortages in commodities and supplies, CBDs and health facility FP service providers, and transport. They also assume that the cost of generating increases in demand remains the same. In other words, additional efforts do not have to be made to achieve the same level of annual increase in client numbers, especially for LARCs.

It should also be noted that the normative costs from the model are higher than the average amounts spent by SUFP. For example, according to SUFP reports the average amount expended on start-up in 2013 was ZMW 336,475 (USD 46,902) per district whereas the model indicates that ZMW 1.7 million (USD 282,000 would have been needed to cover all of Kasama District in 2014. This is to be expected to some degree because the normative costs are intended to cover all activities and resources, including those incurred by MCDMCH, whereas the SUFP expenditures do not include MCDMCH figures. Also for start-up costs the difference could be because not all of the SUFP start-up costs were captured (e.g., for equipment) and also because some cost categories did not match.

6.3 COSTS OF MAINTAINING AND SCALING UP SUFP PROJECT ACTIVITIES

6.3.1 Maintaining Project Activities in the 26 SUFP-Supported Districts

The cost of maintaining the additional scaling-up activities in the 26 SUFP-supported districts depends mainly on the numbers of facilities and villages and the number and mix of methods in each district.

The population of Kasama District is estimated at 271,503 in 2015 and the total projected annual recurrent cost is ZMW 4.9 million (USD 795,000) **(Table 14)**. The recurrent costs include additional commodities, staff time, and transport costs; if these can be covered under existing government budgets, for example by integrating family planning with other services, the additional annual recurrent costs for Kasama District would be around ZMW 1.5 million (USD 242,000).

6.3.2 Cost Drivers

The main cost drivers in 2015 would be supervision, meetings, and training (a total of around ZMW 3.2 million (USD 516,000)), which depends on the numbers of providers, which in turn depends on the numbers of facilities and villages. The cost of commodities and supplies and provider remuneration in 2015 (around ZMW 1.2 million (USD 193,000)) depends on the number and mix of services. While the facility-based providers are paid fixed salaries, the share of those salaries that is attributed to family planning is based on the number and mix of services. Management costs (around ZMW 0.5 million (USD 80,000)) are fixed and would be roughly the same in any district, regardless of size. During the project the CBDs received no remuneration, but if that decision were changed then this could become a major cost driver.

To reduce costs, the main strategy would be to integrate management, supervision, and meetings as much as possible, thus reducing the share that is attributable to family planning. In other words, reducing opportunity costs and making more time available for other activities. Minimizing CBD attrition would save the costs of training and equipping replacements, and if those CBDs are good performers, reducing attrition will prevent losses in service delivery performance, since experience and trust are important.

6.3.3. Expanding Utilization and Increasing LARCs in Existing Districts

Expanding the numbers of services within a district and increasing LARC use only incur small marginal costs in terms of commodities and supplies. In the model, remuneration costs also increase, but in reality those are

opportunity costs if the provider is paid a fixed salary and can provide more FP services without impinging on his or her other activities.

Using the 2014 figures we estimated some of these marginal costs:

- Adding 1 new implant to the 2014 services would have increased the recurrent cost by USD 12.43 in the year that it was added and would have increased the number of CYP by 3.5. In the following 2.5 years there would be no recurrent cost related to that implant.
- Having one client switch from oral contraceptives in 2014 to an implant would result in a net increase in recurrent cost in that of USD 10.93[47] and would have resulted in an increase of 3.3 CYP. However, again there would be no recurrent cost related to the implant in the following 2.5 years and, thus, there would be a marginal saving in that year of USD 1.50.

From these figures it can be seen that the cost and benefit from having a client change from oral contraceptives to an implant is almost the same as for adding a new client who chooses an implant.

Looking at the bigger picture, an increase from 2015 to 2016 of 2.8% in population, 4.4% in total client numbers, and a shift to LARCs would result in an increase in recurrent costs of roughly ZMW 100,000 (USD 16,000) for commodities and supplies and ZMW 17,000 (USD 2,700) in provider remuneration **(see Table 18)**. That extra cost would result in an additional 5,433 CYP, at a marginal cost of ZMW 21 (USD 3.39) per CYP.

6.3.4 Expanding Geographical Coverage Within a District

Expanding activities to more health facilities and related communities will result in additional start-up equipment, training, and camping visits as well as increased supervision, and numbers of meeting participants and refresher and replacement training participants. It will also result in increased numbers of services and CYP as described in the previous paragraph. Based on the Kasama District model, the average cost per facility with related villages in 2014 would have been around ZMW 58,000 (USD 9,400) for start-up costs and ZMW 164,000 (USD 26,500) for recurrent costs in 2015.

6.3.5 Replication to New Districts

The total cost of replicating the SUFP start-up project activities (initial training and camping approach) in a new district the same size as Kasama would be ZMW 1.7 million (USD 282,000) for start-up costs and ZMW 4.9 million (USD 790,000) for annual recurrent costs, plus around ZMW 59,000 (USD 9,500) for replacement CBD equipment if the CBD attrition rate is the same as in Kasama, and ZMW 591,000 (USD 95,000) for replacing all equipment every third year. These figures assume the same level of coverage and mix of services as projected for Kasama in 2015.[48]

If the costs of the additional commodities, facility provider staff time, and management and supervision staff time can be covered by the government within its existing budget, then the additional costs needed to implement the interventions in a new district would be limited to training and equipping staff and CBDs, and per diems for CBDs to attend meetings. These total projected additional costs for a district similar to Kasama would be around ZMW 1.7 million (USD 282,000) for start-up costs and around ZMW 1.5 million (USD 250,000) per year in recurrent costs.

[47] These are average figures including the cost of providing the service - the change in cost would actually depend on the level of provider – more expensive at a hospital than at the health center in the case of implants and more expensive at a health center than if provided by a community-based volunteer.
[48] Using 6.2 ZMW = USD 1.

6.3.6 Efficiencies

Several elements of the project design were modified over time and have probably helped to improve efficiency:

- The shift from using national level staff and trainers for the camping approach to district-level support has allowed the camping approach to be rolled out faster and at less cost.
- The extra support provided by having a DOC and a small district budget for assisting the MCDMCH to overcome small logistical issues has magnified the impact of the project on demand creation.
- The mentoring approach which was introduced towards the end of the project is a good way to continue providing support to less-experienced service providers, but it seems from the information from the two sample districts that this was only implemented to a limited degree and will require some increased MCDMCH funding to be maintained.

However, there have reportedly been some issues that probably negatively affected results:

- The high rate of attrition of CBDs is likely to have reduced the impact of the project in villages where they stopped working.
- The interviews of CBDs in the sample district indicated that, despite the SUFP logistical support, there were times when the CBDs did not have supplies of oral contraceptives and condoms.
- Health facility staffing limitations meant that regular, effective outreach was not always feasible.

Replicating the package of scaling-up activities to other districts should result in economies of scale, since there should not be any need to allocate additional resources at the national level. In terms of expanding to more health facilities and related villages within a district, there should be no additional district-level management costs. Additional costs of training, equipment, meetings, and supervision would be incurred but should only relate to the additional facility staff and CBDs.

Increasing numbers of clients should only result in additional costs of providing services: labor for counseling and method provision, and cost of commodities and supplies. Changing clients to LARCs would only result in additional costs for commodities and supplies, and the additional labor costs (if any). It should be noted that health facility labor costs are fixed and are thus opportunity costs. If the provider has spare time, the additional cost is actually zero, but if the provider has to give up another activity then there is an opportunity cost related to the value of that sacrificed activity.

6.3.7 Bottlenecks

The costs and related numbers of services mentioned in the preceding sections assume that there are no supply-side bottlenecks, such as stock-outs of commodities, shortages of staff or CBDs, and lack of funds for fuel, maintenance and repairs of vehicles needed for supervision and supply chain. The SUFP project provided some financial support for logistics that reportedly reduced stock-outs of commodities, and provided support for procurement of commodities at the national level. It also provided training for CBDs, but could only provide limited ongoing support for the CBDs trained. Reportedly, the project could not resolve any problems of staff shortages, which is a longer-term problem that has to be addressed by the government.

We did not have the opportunity to analyze the solutions to bottlenecks and the long-term costs of removing them, but it has to be recognized that where such issues exist, they pose a significant constraint on achieving the goals of the family planning program.

7. Comparisons with Previous Cost Analyses

We compared the results of the costing with the figures shown in the Zambia Government's Family Planning Services Integrated Family Planning Scale-up Plan 2013–2020 (commonly known as the Costed Implementation Plan or CIP).[49] The CIP states that the average projected cost per WRA of the planned activities, excluding commodities, would be ZMW 13.05 (USD 2.41). Although the cost per CYP was not stated in the CIP, we calculated it by dividing the total cost of the CIP of ZMW 591 million (USD 95.3 million) by the total of 10.7 million expected CYP, which gives an average cost of ZMW 54 (USD 8.71) per CYP.

According to this Evidence Project costing study, the average total cost per WRA, excluding start-up costs and commodities, would be ZMW 73 (USD 11.77) in 2016. The average total recurrent cost per CYP in this study would be ZMW 126 (USD 20.32) in 2015, falling to ZMW 102 (USD 16.45) in 2017. Both of these figures are higher than the estimated costs from the CIP as stated above. However, this Evidence Project study includes a share of the salary costs relating to FP services for health facility service providers, supervisors and managers, whereas the CIP figures apparently do not. Other possible reasons for the difference are that we assumed regular monthly meetings for CBDs, which carry a high cost for staff time, per diem and travel costs for CBDs, and we also assumed that replacement CBDs would need to be trained and equipped each year, whereas it appears that these assumptions may not have been made in the CIP.[50] Finally, the assumptions regarding changes in the mix of services over time are somewhat different.

[49] The MSH team was unable to find comparable studies for a similar time period from other countries except for a study in Kenya but those data were from 2009 and were not directly comparable to the Zambia figures (The Cost of Family Planning in Kenya. February 2010. Health Policy Initiative, Task Order 1 Futures Group).

[50] It is worth noting that the CIP report does not provide enough detail to identify clearly the reasons for the differences. The MSH team was unable to obtain a final copy of the CIP spreadsheets that matched the totals in the CIP report but was able to obtain an interim version where the totals were similar. Unfortunately, the way the figures were modeled in those spreadsheets made it impossible to see the calculations for most of the totals.

8. Study Limitations

As described in Section 3, there were a number of methodological limitations. It was recognized in advance that it would not be possible to:

- Calculate the cost of removing any bottlenecks identified during the study;
- Estimate economic (non-financial) costs, such as the opportunity costs of CBDs;
- Estimate the financial and economic costs incurred by clients;
- Compare detailed costs and results in sample study districts with those in any other districts;
- Compare costs and outputs (e.g., for cost-effectiveness) with any other organizations that assist the government in providing FP services;
- Estimate the financing capacity of the government to take over project-supported activities that need to be sustained.

A number of additional limitations were encountered during the course of the study:

- It was difficult to accurately estimate the impact of the project interventions in terms of numbers of services. This is because there were no control districts and SUFP was not the only provider of training and technical assistance in most of the 26 project-supported districts. In addition, the SUFP service utilization data did not include any data for the periods before the project started, so it was not possible from those data to estimate the initial impact of project activities. The estimates of attribution of impact provided in this report are therefore not definitive.
- The MSH team was unable to obtain population data to estimate the numbers of women between 15 and 49 years old (women of reproductive age) that could be matched with the reported numbers of services, due to changes in population data following the creation of new districts during the period of the project.
- SUFP district expenditure data was aggregated when it is reported to the national SUFP office. Expenditure on removing bottlenecks (e.g. fuel for supervision and/or supply chain) is not reported separately from other travel and transport costs. It is not, therefore, possible to attribute the result of that element of the investment.
- There was not sufficient time to cross check the service utilization figures provided by SUFP and MCDMCH. The figures did not match across the two systems and both data sets showed large monthly variances, possibly due to reporting issues. In addition, the reporting rates of facilities in the MCDMCH HMIS were not all 100%.

9. Conclusions

The prime objective of this study was to better understand the cost implications in determining the scope and pace of scale up of the SUFP Project. The conclusions can be summarized as follows.

IMPACT

The analysis of SUFP and MCDMCH data indicates that the implementation of the scaling-up package of activities within districts and across districts was successful, and this contributed to gains that were largely maintained through the end of the project. The package of scaling-up activities appears to have contributed to increases in numbers of FP clients and LARCs, resulting in major increases in CYP.

While the initial training, demand creation, and strengthened outreach interventions are likely to have played a major role in the positive results achieved, it is also important to recognize the importance of the managerial and financial support provided to the district MCDMCH offices for their supervision, community and outreach activities, and for improving commodity supply logistics.

PROJECT AND TOTAL COSTS

The average start-up expenditure made by SUFP for the district scaling-up activities was ZMW 336,475 (USD 46,902), and the total SUFP recurrent expenditures for Kasama District for 18 months was ZMW 239,875 (USD 32,860), plus the salary of a half-time district coordinator for 18 months, which was estimated at an average of ZMW 52,500 (USD 7,192). These expenditures did not, however, cover the whole district (only the more under-served areas) or all equipment and longer-term resource needs. For example, the cost of refresher training, training and equipping replacement CBDs, and the replacement of equipment every 3 years were not included. If the CBD attrition rate is to be reduced, it is likely that incentives would also need to be paid.

Based on the cost modeling exercise, the cost of the package of scaling-up activities for the whole Kasama District would have been around ZMW 1.7 million (USD 282,000) for the initial training and camping events. The subsequent annual recurrent costs needed to provide the package of community, outreach, and facility-based services would be around ZMW 4.9 million (USD 795,000). Replacement equipment for CBDs would cost an additional ZMW 59,000 (USD 9,500) every year, and replacing all equipment would cost an additional ZMW 591,000 (USD 95,000) every third year. The total start-up cost comes to an average of ZMW 29 (USD 4.74) per WRA, and the total recurrent cost for 2015 would be an average of ZMW 80 (USD 12.96) per WRA. The annual recurrent cost in 2015 reflects the provision of services that would result in 38,876 CYP, which would amount to ZMW 126 (USD 20) per CYP.

EXPANSION FROM SEVEN TO 26 DISTRICTS

The additional costs needed for expanding the scaling-up activities to more districts should only be incurred at the district level since it is unlikely that additional national resources would be needed.

The cost of replicating the initial scaling-up activities would be ZMW 6.64 (USD 1.07) per capita (all population). Replacement equipment costs would be ZMW 0.22 (USD 0.04) per capita every year and ZMW 2.12 (USD 0.34) every third year. The total annual recurrent costs (excluding equipment) of providing the community, outreach and facility-based package of services would be ZMW 18.15 (USD 2.93) per capita (all population). These figures can be used as a rough guide for estimating the cost of scaling-up to other districts.

If the costs of the additional commodities, facility provider staff time, and management and supervision staff time can be covered by the government within its existing budget, then the additional costs needed to implement the interventions in a new district would be limited to the costs of training and equipping staff and CBDs and of paying CBDs the costs of attending meetings. These total projected additional costs for a district similar to Kasama would be around ZMW 1.7 million (USD 282,000) for the initial scaling-up activities, and around ZMW 1.5 million (USD 250,000) per year for providing the community, outreach and facility-based package of services.

EXPANDING GEOGRAPHICAL COVERAGE AND LARCS WITHIN DISTRICTS

In terms of expanding the package of scaling-up activities within districts to cover more health centers and communities, there should be no additional management costs. Additional costs of training, equipment, meetings, and supervision would be incurred but should only relate to the additional facility staff, CBDs, and the numbers of additional services provided. It should be noted that the facility providers' labor costs are a share of their fixed remuneration and are thus opportunity costs. If the provider has spare time, the additional cost is actually zero, but if the provider has to give up another activity, then the cost is real.

Increasing numbers of clients should only result in additional costs of providing services – opportunity costs of labor for counseling and method provision, and cost of commodities and supplies. Increasing numbers of clients who switch to LARCs would only result in the additional costs related to commodities and supplies and the additional labor costs (if any).

Using the 2014 figures in the model we estimated some of these marginal costs:

- Adding 1 new implant to the 2014 services would have increased the recurrent cost by ZMW 77 (USD 12.43) and increased the number of CYP by 3.5. In the following 2.5 years there would be no recurrent cost related to that implant.
- Having one client switch from oral contraceptives in 2014 to an implant would result in a net increase in recurrent cost of ZMW 67 (USD 10.93), and would have resulted in an increase of 3.3 CYP. However, again there would be no recurrent cost related to the implant in the following 2.5 years and, thus, there would be a marginal saving in that year of ZMW 10 (USD 1.50).

From these figures it can be seen that the cost and benefit from having a client change from oral contraceptives to an implant is almost the same as for adding a new client who chooses an implant.

COSTING EACH TYPE OF RESOURCE AND ACTIVITY

A major cost driver for implementing a new project of this type is the start-up cost of the initial training and camping activities. Training and equipping facility providers and CBDs, as well as managers and supervisors, and implementing the camping approach cost around ZMW 1.7 million (USD 282,000) for a district similar to Kasama. Of that total amount, the cost of the camping approach and related training was approximately ZMW 35,000 (USD 5,600) for each facility and its related villages.

In terms of the annual recurrent costs, the main cost drivers are supervision (16%), meetings (32%), and refresher training (16%). These costs depend to some degree on the numbers of providers (facility-based and CBDs), which in turn depends on the numbers of facilities and villages. The cost of commodities and supplies and provider remuneration depends on the number and mix of services. (While the providers are paid fixed salaries, the share of those salaries that is attributed to family planning is based on the number and mix

of services.) This does not include CBD remuneration, since they were not paid under the project. Management costs are fixed costs and would be roughly the same in any district, regardless of size. During the SUFP project, the CBDs received no remuneration, but if that decision were changed then this could become a major cost driver.

EFFICIENCIES AND ECONOMIES OF SCALE

Replicating the project's scaling-up package of activities to more districts should result in some economies of scale, since there would have been no need to expand national-level supervision or management in proportion to the expansion of districts.

Economies of scale should also be achieved in terms of rolling out the scaling-up package of activities to additional health facilities and related villages within a district. In the former case, there should be no need for additional districts management costs. Additional costs of training, equipment, meetings, and supervision would be incurred, but should only relate to the additional facility staff and CBDs.

Increasing numbers of clients should only result in additional costs of providing services – labor for counseling and method provision, and cost of commodities and supplies. Increasing numbers of CYP by changing to LARCs would only result in the additional costs related to commodities and supplies and the additional labor costs (if any). As noted above, the facility providers' labor costs are a share of their fixed remuneration and are thus opportunity costs. If the provider has spare time, the additional cost is actually zero, but if the provider has to give up another activity, then the cost is real.

BOTTLENECKS

Some bottlenecks were reported in the district interviews and these would have affected cost effectiveness, notably the high rate of attrition of CBDs in some districts, a lack of equipment and space in some facilities, and lack of access to supplies of oral contraceptives and condoms at the community level.

SUSTAINABILITY

Although the scaling-up package of activities appears to have contributed significantly to increases in FP users and CYP in the districts where it was implemented, there are concerns about sustainability.

The activities appear to have contributed to increasing demand, but increased demand needs to be met with increased access to quality services, including supporting MCDMCH logistics and supply chain. Some bottlenecks in terms of facility-based providers, CBDs, supervision logistics, and supply chain were identified through interviews while the project was still running. CBD attrition is a major concern, with lack of support and incentives being quoted as issues (for example, too few bicycles, insufficient travel funding and per diems, no payment scheme). It is not clear if MCDMCH budgets will increase to ensure that outreach and supply chain function at the required levels.

The introduction of a program under which more experienced MCDMCH providers mentor less experienced providers should help with sustaining skill levels, but it appears that not all facilities were covered and it is not clear if the MCDMCH will dedicate additional funding to cover the costs.

The DOCs played an important role in the achievements of the project, but SUFP staff had different opinions regarding the need to continue that role. Some felt that the role should be integrated into the job of the

MCDMCH's District RMNCH Coordinator, while others felt that a new position should be created in the MCDMCH District Office to carry out the DOC role. If the latter option is preferred, then the MCDMCH will need to allocate additional budget.

The project budgets did not include refresher training or replacement of equipment. The high rate of CBD attrition (at least in Kasama District) was not anticipated, and the cost of training and equipping replacement CBDs was not budgeted. These would need to be included in ongoing costs if the activities are integrated into government or continued with other donor support.

As one of the sample district DOCs commented, they are doing all they can to ensure integration and sustainability, but if the MCDMCH does not allocate additional funds to cover outreach, supply chain, and CBD costs that were originally covered by the project, and if the issue of CBD incentives is not solved, there is concern that some of the achievements of the project will be lost.

10. Recommendations

Many lessons can be learned from this project, and further research would be beneficial, both for the country and globally.

In terms of utilization, this would mean a more detailed analysis of trends, involving comparisons of utilization before, during and after the project. Additional data collection and analysis would be useful for rural versus urban settings, removals of IUCDs and implants, and separation of services provided by CBDs and those provided through outreach (which is currently aggregated under the facility). In addition, it would be useful to do more research on the cost of logistical support that was needed to improve supply chain, outreach, and supervision.

Research into the demand curve for IUCDs and implants would also be useful to see when numbers of users would be expected to increase, plateau, and decline. This would require accurate data on population (women of reproductive age) and on provision and removal of IUCDs and implants.

While sufficient momentum and behaviour change on the demand side may have been created, at least in the seven Phase 1 districts where the project was in place the longest, it is crucial to maintain access to counselling and services, including the application and removal of implants and IUCDs. Additional research would also be useful on how long and what effort is required to build sustained demand in Zambia, given the cultural challenges.

For replication and sustainability, it will be important to reduce and control costs. The best strategy would be to integrate management, supervision, and meetings as much as possible, thus reducing the share that is attributable to FP. Minimizing CBD attrition would save the costs of training and equipping replacements and, if those CBDs are good performers, reducing attrition will prevent losses in service delivery performance, since experience and trust are important. However, it should be noted that reducing attrition may involve remunerating or otherwise incentivizing CBDs, which would have a cost. Lessons from other countries show that financial incentives are important motivators for CHWs, together with reimbursement of costs (such as travel and per diem) [6, 7]. Non-financial incentives, however, are also important, such as having adequate supplies, regular training, supervision, public recognition, and opportunities for advancement and professional development. These should, if possible, be harmonized with other programs and must be consistent.

Sustained improvements in FP services is crucial and it is important to have a clear plan and commitment from a government, from the start of a project, to take over designated project activities and allocate funds accordingly. Ideally, this transition should start during the course of the project so that the transition is not too abrupt when the project ends. To assist in this process, an analysis of the Government's fiscal capacity and allocation and cash flow processes should be conducted.

Annexes

ANNEX 1. NAMES OF DISTRICTS SUPPORTED BY SUFP AND PROJECT PHASES AND START-UP DATES

TABLE 20 | DISTRICTS SUPPORTED BY SUFP AND START-UP DATES

PHASE	DISTRICT	PROVINCE	PROJECT START	OCT-DEC 2012	JAN-MAR 2013	APR-JUN 2013	JUL-SEP 2013	OCT-DEC 2013	JAN-MAR 2014	APR-JUN 2014
1	Kaputa	Northern	Nov-12	x						
1	Chama	Muchinga	Oct-12	x						
1	Kasama	Northern	Dec-12	x						
1	Luwingu	Northern	Dec-12	x						
1	Mpulungu	Northern	Apr-13			x				
1	Milenge	Luapula	Apr-13			x				
1	Kabompo	North Western	Apr-13			x				
2	Chipata	Eastern	Jun-13			x				
2	Katete	Eastern	Jun-13			x				
2	Chinsali	Muchinga	Jul-13				x			
2	Isoka	Muchinga	Jul-13				x			
2	Mongu	Western	Aug-13				x			
2	Kabwe	Central	Aug-13				x			
2	Choma	Southern	Sep-13				x			
2	Mungwi	Northern	May-13			x				
2	Samfya	Luapula	Jun-13			x				
2	Mporokoso	Northern	Jul-13				x			
2	Kasempa	North Western	Aug-13				x			
2	Siavonga	Southern	Jun-13			x				
2	Senanga	Western	Sep-13				x			
3	Chavuma	North Western	Jun-14							x
3	Itezhi-Tezhi	Southern	Jun-14							x
3	Kaoma	Western	May-14							x
3	Mwense	Luapula	May-14							x
3	Petauke	Eastern	May-14							x
3	Sesheke	Western	Apr-14							x

ANNEX 2. KASAMA DISTRICT INTERVIEWS REGARDING SUFP PROJECT ACTIVITIES, COSTS AND ACHIEVEMENTS

The SUFP project officially began in late 2012 in the Kasama District, with the majority of camping outreach visits occurring in 2013. In total, SUFP supported the scale up of family planning services in 20 of 33 health facilities, which provided services to more than 160,000 persons.[51] The 20 intervention health facilities were selected based on their location, and the majority were located in rural, hard-to-reach areas. The remaining 13 health facilities were supported directly by Marie Stopes International (MSI).

Timeline

The implementation of a project like SUFP takes time and it is important to understand the timeline. According to the information provided in the district, the timeline was as follows:

2012: SUFP Implementation

The project began implementation in late 2012 to support camping and uptake of FP in 20 facilities, which covers approximately 124 villages. Health providers from all facilities were trained, as were 84 CBDs, local community/religious leaders, and two drama groups.

2013: Focus on camping/outreach at community level

The majority of camping began in 2013. These large outreach visits focused on educating communities on family planning, and these visits often included a performance by a local drama group and were supported by multiple facility providers, CBDs, and local leaders.

Other activities included:

- Depot holder training (primarily in May)
- Focus group discussions with adolescents in four schools and with out-of-school adolescents at four health centers with youth friendly sexual and reproductive health services, for the period May to July 2013
- Regular health provider/CBD monthly meetings at health centers

2014: Ongoing implementation/sustainability planning

- 6 two-day FP outreach visits during which clients receive commodities;
- Operationalization of Center of Excellence;
- Health provider mentorship of health providers;
- Health provider/CBD monthly meetings at health centers.

2015: Phase out of activities

- Reduced number of paid outreach activities at the health center/community level.[52] The last time there was a drama group outreach was in February 2015. Paid outreaches have reduced due to limited resources.
- As of April 2015, an estimated 50% of the trained 84 CBDs were no longer providing services.

[51] Population data was not available for the Zambia Police Clinic which was constructed in 2014.

[52] According to Kasama DOC, SUFP has a monthly and yearly budget for outreach. 20,000 K/district/month for outreach and for supervision and per diem; however this has gone down to 15,000 K/district in February and 5,000 K/district in March.

Camping Approach

The camping approach in Kasama District convened and trained 20 MCDMCH health facility staff, 84 community-based distributors (CBDs) (including 10 depot holders), two drama groups, as well as community and religious leaders in sensitizing communities on the importance and availability of family planning methods. Trained community and religious leaders are considered "gate keepers" who are able to mobilize the community and communicate the importance of family planning, while dispelling common myths and misconceptions. CBDs are also trained to communicate the benefits of family planning, and are regularly supplied with short-acting family planning methods (male and female condoms and oral contraceptives), which they provide to community members in addition to referrals to the health facility for those seeking Depo-Provera and long-acting methods (e.g. IUCDs, implants).

At the inception of the project, the aforementioned groups would participate in community outreach visits to educate people on family planning. These visits often included a performance by a local drama group and were supported by multiple facility healthcare providers, CBDs, and local leaders. Over time, family planning outreach visits have been integrated with recurrent monthly immunization and antenatal care visits occurring at outreach posts in the community. During these visits, MCDMCH staff supply injectable contraceptives and supervise CBDs.

SUFP employed one DOC, based at the MCDMCH Offices in Kasama, who is responsible for overseeing SUFP activities in both Kasama and Mpulugu districts. The DOC typically spends two weeks in each of the two districts per month. The role of the DOC is to regularly supervise and mentor CBDs and health facility staff, support and monitor SUFP activities, compile project data and transmit it to the central offices, and regularly host quarterly review and planning meetings with the MCDMCH health facility staff to review project findings and challenges. These meetings reportedly occurred less frequently in the later stages of the project due to funding limitations.

Uptake of Family Planning

The SUFP-supported scale up of the camping approach appears to have contributed to a significant increase in the uptake of short- and long-acting family planning use in Kasama district, as well as an overall increase in CYP. According to the MCDMCH figures for the facilities supported by SUFP, the number of implants increased by 87% from 2012 to 201, the number of Depo-Provera injections increased by 54%, and the number of oral pill cycles increased by 40%. The total number of CYP increased by 37% over the same period. According to the DOC, the facility reporting rates in Kasama District were 88% in 2012, 78% in 2013, and 99% in 2014. There were 32 facilities in 2014.

The uptake of certain family planning methods, such as female condoms, norethisterone enanthate injections, and IUCDs decreased during this period, likely due to a number of factors. According to interviews with MCDMCH facility staff and CBDs, women demonstrated a growing preference for injectable contraceptives (i.e. Depo-Provera) compared to implants and oral contraceptives, as they can hide these methods from their husbands. Often, women return to the health facility to remove their implant at the request of their husband. Moreover, there are several myths and misconceptions at the community level regarding implants (e.g. implants cause cancers and infertility). Reportedly, neither SUFP nor the MCDMCH monitors or tracks the number of implants or IUCDs that are removed.

The majority of MCDMCH staff interviewed for this study indicated that although they were trained on providing IUCDs, they rarely provided this service because they lacked proper sterilization equipment. Moreover, services such as male and female sterilization are only provided at tertiary facilities, which are not supported by SUFP.

The people interviewed identified a number of bottlenecks to achieving the goals of increasing family planning coverage. These were the following:

- **Myths and misconceptions.** Misconceptions about family planning continue to exist, particularly those related to the corresponding adverse side effects (e.g. that a given contraceptive method may cause cancer and infertility).
- **Lack of reliable information**. Despite increased awareness and access to family planning methods and information:
  - Some women still do not receive this information, or they are not able to make decisions for themselves, as their decisions are often controlled by their husband. According to CBDs in Kasama, most women prefer getting information from their friends instead of the CBDs. Often, friends provide the wrong information. "Before they get information from us, they consult their colleagues in the community…. They tend to believe what others believe." - Registered nurse from Kasama College Clinic.
  - Some people are too shy to come to the clinic to receive family planning. Husbands often are aware of the days when the facility provides FP, so women do not come, out of fear that their husband will find out. Often they come back asking for their insertions to be removed because they did not consult with their husbands. It helps when they come with the husband and discuss the advantages of FP.
  - Long-acting family planning services (e.g. IUCD, sterilizations) are only provided at health facilities, which are sometimes located very far from hard-to reach areas.
- **Funding.** Health facilities report infrequent community outreach due to lack of transport or funding for transport (gas) provided by the MCDMCH district offices.
- **Inconsistent SUFP support/incentives to MCDMCH staff and CBDs.**
  - "When [SUFP] started, we received a meal allowance, but as we went on things changed and it became quite difficult to continue… [Family planning-specific outreach] used to be very effective, the results were much higher compared to when combined with Universal Child Immunization (UCI) programs." - Registered nurse from Kasama College Clinic.
  - Kasama College Clinic: "When we started, we were promised we would be given an allowance. Our government policy is to pay CBDs and health facility staff. We continue working. They received one allowance for an outreach program. Only once."
  - MCDMCH staff are supposed to have monthly meetings with CBDs and other providers; however, there is no money to incentivize CBDs.
  - Bicycles/gumboots: When it comes to transport, the CBDs only received 1 bicycle to share among themselves. CBDs reported feelings of frustration as a group of CBDs cannot travel to communities on one bicycle. - Registered nurse at Kasama College Clinic.
- **Stockouts**
  - Limited equipment (e.g. for sterilization of equipment) and beds at the facilities for women receiving IUCD and Jadelle.

  - Stock-outs of commodities: several CBDs reported that short-term methods are unavailable at the community level. Some cited that they depend on the CBD depot provider, who is either is too busy (participates in other community level trainings outside of their community) or who is not provided with short-acting methods.

- **Supply of FP services**
  - All facility staff are trained on providing IUCDs; however, very few (if any) actually provide at the facility due to lack of demand and lack of sterilization equipment and beds at the facility.
- **Attrition and staff shortages**
  - CBD attrition Kasama: 84 CBDs trained (~10 depot holders). About 50% have discontinued this role according to SUFP DOC in Kasama.
  - When they are promised a lot of things: "If you train CBDs, you will be given with bicycles, etc." But there were only 20 bicycles for ~80 CBDs. The number of bicycles and gum boots didn't match up with the number of CBDs.
  - There are staff shortages at the health facility and therefore staff cannot frequently participate in "camping," though they do participate in integrated (immunization, antenatal care, and FP) outreach visits. Due to limited budgets of SUFP, only a certain number of facility staff and CBDs participate in trainings. This can be problematic, particularly given high turnover of facility staff and because CBDs are to cover other areas outside of their communities to ensure coverage. According to a registered nurse at Kasama College Clinic, the facility staff wanted several CBDs to receive training to ensure coverage of all seven catchment villages. He mentioned that this can be problematic: "For someone to come into another zone (village), it is like they are intruding."

Sustainability

The sustainability and success of the camping approach depend on the critical balance of supply side interventions (e.g. trained human resources, availability of family planning commodities, etc.) and demand side interventions (e.g. community outreach, radio posts, and sensitization).

As part of the SUFP project phase out, paid camping outreaches, which utilize community leaders and drama groups, have significantly reduced due to limited project financial resources. However, SUFP staff anticipate that the uptake and benefits of family planning will continue. The majority of family planning outreach activities have been integrated with recurring immunization and ANC outreach visits at outreach posts. SUFP staff have called upon religious and traditional community leaders to continue educating their respective communities on the importance of family planning. The MCDMCH District office has also created action plans for continuing activities after SUFP has closed.

Moreover, SUFP staff have initiated mentorship programs which tasks health facility staff to mentor inexperienced, untrained health facility staff to provide family planning methods, and experienced CBDs to mentor other inexperienced CBDs at the community level. Reportedly, eight facilities have participated in this mentorship program (one day training), for which SUFP contributes lunch allowances and provide transport.

However, concerns have been expressed that outreach and supply chain may suffer when SUFP support is no longer there, and the attrition of CBDs means that community-level support may diminish.

ANNEX 3. KATETE DISTRICT INTERVIEWS REGARDING SUFP PROJECT ACTIVITIES, COSTS AND ACHIEVEMENTS

Overview

The SUFP project officially began implementation in the Katete District (Eastern Province) in June 2013, supporting the scale up of family planning services in 17 of 19 health facilities, which provide services to 192,676 persons.

Timeline of Activities in Katete

SUFP activities in Katete District were implemented as follows:

2013: SUFP Implementation in Katete

- June 2013: Training of health facility providers, CBDs, and community/traditional leaders;
- Camping approach begins in communities;
- Ongoing quarterly review meetings which include 17 health facility staff, 17 CBDS, and the drama group chairperson;
- Ongoing radio spots promoting family planning uptake.

2014

- Camping continues in communities;
- Ongoing quarterly review meetings which include 17 health facility staff, 17 CBDS, and the drama group chairperson;
- Ongoing radio spots promoting family planning uptake.

2015: Phase-out

- Mentorship approach implementation begins in January: 10 health facility providers trained (9 certified) by MCDMCH provider

Camping Approach

SUFP trained 17 MCDMCH health facility staff, 56 community-based distributors (CBDs), 20 community and religious leaders, and one drama group on the importance and availability of family planning methods. Health facility staff were trained on the provision of long-acting reversible (LARCs) family planning methods and CBDs were trained on the provision of short-acting family planning methods (condoms and oral contraceptives).

Following the initial training in June 2013, SUFP began camping in communities. These visits included a performance by the local drama group and sensitizations by CBDs and local leaders. Facility healthcare providers were available to provide LARCs. Similar to other SUFP intervention districts, over time, family planning outreach visits have been integrated with recurrent monthly immunization and antenatal care visits occurring at outreach posts in the community. During these visits, MCDMCH staff supply injectable contraceptives and supervise CBDs. Other LARCs, in particular implants (Jadelle), are provided at the health facility.

The SUFP DOC works in the MCDMCH Offices in Katete and is responsible for overseeing SUFP activities in both Katete and Petauke districts, typically spending two weeks in each of the two districts per month, often spending several day at a time in the communities given their rural location. The DOC regularly supervises and mentors CBDs and health facility staff, supports and monitors SUFP activities, compiles project data and transmits it to the central offices, and regularly hosts quarterly review and planning meetings with the MCDMCH health facility staff and CBDs to review project findings and challenges.

Uptake of Family Planning

The SUFP-supported scale up of the camping approach has contributed to a significant increase in the uptake of family planning use in Katete District, as well as an overall increase in couple years of protection (CYP). Between 2012 and 2014, the total number of CYP increased by 288%, with the main contribution coming from implants (1,549% increase) and Depo-Provera (171%). Depo-Provera was the most commonly used method. The uptake of certain family planning methods, such as male sterilization, progesterone, and medroxyprogesterone injections decreased during this period, likely due to a number of factors including demand of services, stock-outs of commodities, and provider preference. IUCD uptake increased between 2012 and 2013, but decreased in 2014.

The majority of MCDMCH staff interviewed for this study indicated that although they were trained on providing IUCDs, they rarely provided this service given they lacked proper sterilization equipment. Moreover, services such as male and female sterilization are only provided at tertiary facilities, which are not supported by SUFP.

Bottlenecks

The people interviewed identified a number of bottlenecks to achieving the goals of increasing family planning coverage. These were the following:

- Attrition and staff shortages
  - In Katete District, 56 CBDs were trained in 2013 and, as of April 2015, only 38 were still functional. Some find better paying jobs, others get married, some relocate to Katete center, while others stop due to farming.
  - According to the SUFP DOC, CBDs abandon their work when family planning commodities are not provided regularly at the community level.
  - At the beginning of the project, CBDs were provided with more incentives (e.g. training and per diem), which were provided less frequently as the projects neared close-out. Consequently, if incentives are no longer provided to CBDs, they abandon their work because they need to earn income.
  - According to health facility staff, the CBDs are volunteers and they need support to continue working, as their work has a lot of opportunity costs. It would also help if CBDs received certificates to demonstrate their competence, as well as refresher trainings.
  - Previously, when user fees were in place, many CBDs received a small amount of financial motivation; however, since the elimination of user fees, facilities have nothing to provide them.
- Myths and misconceptions. Misconceptions about family planning continue to exist among the population, particularly those related to the corresponding adverse side effects (e.g. Jadelle insertion may cause cancer and infertility).

- Lack of reliable information. Despite increased awareness and access to family planning methods and information:
  - Some women still do not receive this information or they are not able to make decisions for themselves, as their decisions are often controlled by their husband.
  - Some people are too shy to come to the clinic to receive family planning. Husbands often are aware of the days when the facility provides FP so women do not come, out of fear that their husband will find out. Often they come back asking for their insertions to be removed because they did not consult with their husbands. It helps when they come with the husband and discuss the advantages of FP.
  - Long-acting family planning services(e.g. IUCD, sterilizations) are only provided at health facilities, which are sometimes located very far from hard-to reach areas;
- Project funding for outreach
  - Health facilities report infrequent community outreach due to lack of transport or funding for transport (gas) provided by the MCDMCH district offices. The sites for outreach are very far and transport/fuel is needed. Often, facilities only have one motorbike, which means a maximum of two people can travel; however, sometimes there are lots of clients. Adequate support for camping would require a car and fuel.
- Inconsistent SUFP support/incentives to MCDMCH staff and CBDs
  - Many facility staff and CBDs have complained about not receiving incentives throughout the project.
  - Also, CBDs reported that depot holders received a bicycle and a T-shirt but the other CBDs received nothing.
- Stockouts
  - Limited equipment (e.g. for sterilization) and beds at the facility for those receiving IUCDs.
  - Stock-outs of commodities: several CBDs reported that short-term methods are unavailable at the community level. Some cited that they depend on the CBD depot provider who is either is too busy (participates in other community level trainings outside of their community) or who is not provided with short-acting methods.
- Supply of FP services
  - All facility staff are trained on providing IUCDs; however, very few (if any) actually provide at the facility due to lack of demand and lack of sterilization equipment and beds at the facility.
- Over-reporting
  - Several health facilities in Katete district are located along the border of Mozambique. Mozambiquans frequently seek services at health facilities in Katete. Consequently, family planning utilization data may be higher than expected based on the district's population figures.

Sustainability of SUFP Activities

As part of SUFP's phase-out strategy, the project has implemented a mentorship program to promote the sustained uptake of family planning services in health facilities which lack trained providers (e.g. new health care workers or those who have transferred from other health facilities). One trained and high-performing MCDMCH healthcare provider in Katete district was selected to provide other MCDMCH providers with training on family planning service provision at health facilities.

The mentor typically spends three days training mentees on-site. On the first day, the mentor demonstrates how to correctly counsel patients and administer implants (Jadelle); on the second day, the mentor and mentees provide these same services together; and on the third day, the mentee, having received training, provides these same services by him or herself. Between January and April 2015, 10 mentor outreaches were conducted in Katete, resulting in nine SUFP-certified healthcare workers capable of providing LARCs (one provider was not certified due to issues of competency). In support of this mentorship program, SUFP provided per diem and transport to participants. According to the DOC, this approach has increased the number of trained family providers at health facilities.

However, according to the DOC in Katete, it will be very difficult for the MCDMCH to fully adopt and continue all of the activities supported by SUFP, given the lack of MCDMCH funding for recurrent costs for logistics, per diem/ allowances, transport/fuel, and training. In addition, the high attrition rate of CBDs means that the community support, a platform of this project, will be difficult to sustain.

ANNEX 4. DISTRICT SUPPORT EXPENDITURES BY DISTRICT AND YEAR

TABLE 21 | SUFP SUPPORT EXPENDITURES BY DISTRICT AND YEAR (ZMW)

PHASE	DISTRICT	PROVINCE	PROJECT START	DISTRICT COORDINATOR	OCT 2013-FEB 2014 ACTUAL ZK	APRIL 2014-MAR 2015 ACTUAL ZK	JAN-JUN 2015 ACTUAL ZK	TOTAL (BUDGET/ ACTUAL)
1	Kaputa	Northern	Nov-12	Chiluba	105,937	147,265	-	253,201
1	Chama	Muchinga	Oct-12	Kayuni	115,693	139,379	8,968	264,039
1	Kasama	Northern	Dec-12	Sampa	115,923	126,513	9,016	251,451
1	Luwingu	Northern	Dec-12	Chulu	72,516	152,513	11,288	236,316
1	Mpulungu	Northern	Apr-13	Sampa	115,923	126,513	9,016	251,451
1	Milenge	Luapula	Apr-13	Siakanomba	96,945	113,858	3,659	214,462
1	Kabompo	North Western	Apr-13	Chikwaba	68,593	125,290	14,320	208,203
2	Chipata	Eastern	Jun-13	Kayuni	115,693	139,379	8,968	264,039
2	Katete	Eastern	Jun-13	Kasekete		161,935	13,221	175,156
2	Chinsali	Muchinga	Jul-13	Chikwamphu	83,563	119,303	15,698	218,563
2	Isoka	Muchinga	Jul-13	Chikwamphu	83,563	119,303	15,698	218,563
2	Mongu	Western	Aug-13	Nkaanga	77,322	201,038		278,359
2	Kabwe	Central	Aug-13	Mwelwe/Kulya	56,519	133,577	13,050	203,145
2	Choma	Southern	Sep-13	Simbyakula	103,540	175,166	17,095	295,801
2	Mungwi	Northern	May-13	Chulu	72,516	152,513	11,288	236,316
2	Samfya	Luapula	Jun-13	Siakanomba	96,945	113,858	3,659	214,462
2	Mporokoso	Northern	Jul-13	Chiluba	105,937	147,265		253,201
2	Kasempa	North Western	Aug-13	Chikwaba	68,593	125,290	14,320	208,203
2	Siavonga	Southern	Jun-13	Simbyakula	103,540	175,166	17,095	295,801
2	Senanga	Western	Sep-13	Hachbamba		97,344	13,454	110,797
3	Chavuma	North Western	Jun-14	Chungu		133,842	43,691	177,533
3	Itezhi-Tezhi	Southern	Jun-14	Mwelwe/Kulya	56,519	133,577	13,050	203,145
3	Kaoma	Western	May-14	Nkaanga	77,322	201,038		278,359
3	Mwense	Luapula	May-14	Simasiku		171,355	7,004	178,359
3	Petauke	Eastern	May-14	Kasekete		161,935	13,221	175,156
3	Sesheke	Western	Apr-14	Hachbamba		97,344	13,454	110,797
	TOTAL	**26**			**1,793,097**	**3,691,550**	**290,228**	**5,774,875**

ANNEX 5. FP DATA REPORTING

The following is an explanation of the FP services reporting methods and challenges.[53]

The SUFP reporting form captures numbers of clients on all methods. The figures for condoms are numbers of clients, not numbers of condoms, and the figures for pills are the numbers of clients, not numbers of cycles. This is different from the HIA2 of the MCDMCH HMIS, which captures numbers of commodities for condoms (in pieces) and oral pill cycles (in cycles).

The challenge has been at the health facility level, where personnel have to use the family planning registers to extract the actual numbers of clients and not the commodities which they normally report on their HIA2 of the HMIS.

Determining whether the condoms are dispensed for dual protection (both STI prevention and family planning) or simply for family planning (and recorded as such) may not always be an easy task for the providers. But SUFP instructed the recorders that the project's interest was in the numbers of people and not commodities, and emphasized the use of condoms for dual protection, especially for adolescents, even for those who were on other long term FP methods.

Because of the challenges faced with getting figures on condoms, SUFP did not use them to report on FP uptake. They are not part of the figures reported to DFID and other partners on New (or Continuing) Acceptors of FP. Only injectables and oral contraceptives are reported as short-term methods. However, condom figures are only reported in the narrative to highlight the role of the project in integrating HIV prevention with family planning services by promoting dual protection (through condom use), especially among sexually active adolescents.

For the oral pill, SUFP tracks people and not commodities, and we report on the numbers of people. The family planning registers at health facility levels are used to collecting data on New Acceptors of Oral pills. Even though they are provided with 3 months' supply, they are not counted as new every month because the register and tally sheet are used collaboratively to get the figures, and these documents only capture clients as they flow on daily basis.

Re-attendance figures reflect the number of people coming back as continuing acceptors, having used any other modern FP method before. So if a client was previously on any other modern FP method and they either come back to continue with the same method or want to switch to another method, they are counted as re-attendance. For the implants, for example, the re-attendance figures include clients who come back as previous users of other modern FP methods who then switched to implants. None of the figures take into account removals of methods (IUCDs, implants) or counseling only.

[53] Provided by Maurice Pengele, the SUFP Team Leader for Monitoring and Evaluation

ANNEX 6. CYP CONVERSION RATES (DECEMBER 2011)

Source: https://www.usaid.gov/what-we-do/global-health/family-planning/couple-years-protection-cyp
Conversion rates used for CYP in Part 1: Assessment and Feasibility of Maintaining an Innovative Program

METHOD	CYP PER UNIT
Copper-T 380-A IUCD	4.6 CYP per IUCD inserted
(3.3 for 5 year IUCD e.g. LNG-IUS)	-
3 year implant (e.g. Implanon)	2.5 CYP per implant
4 year implant (e.g. Sino-Implant)	3.2 CYP per implant
5 year implant (e.g. Jadelle)	3.8 CYP per implant
Emergency Contraception	20 doses per CYP
Fertility Awareness Methods	1.5 CYP per trained adopter
Standard Days Method	1.5 CYP per trained adopter
LAM	4 active users per CYP (or .25 CYP per user)
Sterilization* Global (India, Nepal, Bangladesh)	 10 13
Oral Contraceptives	15 cycles per CYP
Condoms (Male and Female)	120 units per CYP
Vaginal Foaming Tablets	120 units per CYP
Depo Provera (DMPA) Injectable	4 doses per CYP
Noristerat (NET-En) Injectable	6 doses per CYP
Cyclofem Monthly Injectable	13 doses per CYP
Monthly Vaginal Ring/Patch	15 units per CYP

*The CYP conversion factor for sterilization varies because it depends on when the sterilization is performed in the reproductive life of the individual. For more specific data on CYP and sterilization, consult with national DHS and CDC reproductive health survey records which may provide a historical calculation based on a specific country's context.

ANNEX 7. UNIT COSTS USED FOR COMMODITIES AND SUPPLIES

The unit costs for commodities and key supplies used in the cost modeling were taken from the Zambia CIP study spreadsheets. The commodity costs were originally in USD and converted into ZMW at the rate of 5.4 ZMW to 1 USD. Since we used a mid-year exchange rate for 2014 of 6.2 ZMW to 1 USD, we updated the unit costs accordingly.

LIST OF MEDICINES, COMMODITIES, AND SUPPLIES	DESCRIPTION (PER PILL, PER TREATMENT, ETC.)	UNIT COST (ZMW)
Pill	Per cycle	1.80
Male Condom	Per condom	0.19
Female Condom	Per condom	3.10
Depo-Provera	Per injection	5.27
Implant	Per implant	52.70
IUD	Per IUD	2.17
Female Sterilization	Per operation	0.00
Male sterilization	Per operation	0.00
Implant Consumables	Per implant	9.60
IUD Consumables	Per IUD	2.44
Female Sterilization Consumables	Per operation	54.22
Male Sterilization Consumables	Per operation	15.23

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