COSTING ANALYSIS

Expanding the range of family planning services through comprehensive VSC events (VSC+) in Baitadi and Darchula districts, Nepal

Final report, September 2016

Health Research and Social Development Forum (HERD)

Mott MacDonald

This work is funded by the UK Department for International Development (DFID) and the United States Agency for International Development (USAID) in close collaboration with the Government of Nepal.

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Acronyms

CYP	Couple of Years of Protection
DALY	Disability Adjusted Life Years
DFID	Department for International Development
DHO	District Health Office
FHD	Family Health Division
FP	Family Planning
GON	Government of Nepal
GDP	Gross Domestic Product
HERD	Health Research and Social Development Forum
HP	Health Post
IUCD	Intra-Uterine Contraceptive Device
LARC	Long Acting Reversible Contraception
MSI	Marie Stopes International
NHSSP	Nepal Health Sector Support Programme
NPR	Nepali Rupees
PHCC	Primary Health Care Centre
SOP	Standard Operating Procedures
UK	United Kingdom
USAID	United States Agency for International Development
USD	US Dollar
VP	Visiting Provider
WHO	World Health Organization

Note to the reader

This section of the document presents some important clarifications, assumptions and limitations which need to be kept in mind while reading this report and drawing conclusions.

- **Implementation modalities.** The document refers to modality A and modality B. Modality A is service provision by District Health Officer (DHO) in Baitadi. Modality B refers to service provision by Marie Stopes International (MSI) in Darchula. This is further explained in section 1.2 of this document.

- **Capacity to provide services**. This costing study assumes that there is basic capacity in the form of a trained health workers to provide services under modality A (Baidati). Therefore, no additional health worker will be required to provide services.

- **Actual costs and service provision protocols.** This study collected actual costs from the sampled health facilities for both modalities and also interviewed the providers about the protocols followed to provide LARC and sterilisation services. This means that reported non-conformities have also been embedded into the costing exercise, potentially resulting in lower costs. For example, if the treatment protocols are not fully followed, e.g. disposable gloves not used or not replaced every time, this and other such omissions would result in lower costs.

- **Cost-effectiveness conclusions.** In order to comment on the cost-effectiveness of both the modalities, we used the Commission on Macroeconomics & Health and the World Health Organization (WHO) recommendation. According to this recommendation an intervention is considered to be very cost-effective and cost-effective if the cost per DALY is less than per capita GDP or between 1 and 3 times per capita GDP, respectively. If the cost per DALY is more than three times the GDP per capita, then the intervention is regarded as not cost-effective.

- **Valuation of benefits**. Only incremental benefits were valued. There are a number of gains that will arise as a consequence of implementing the project. Only those gains which can be valued with reliable estimation and are within the scope of the project have been accounted for. The following gains have been valued as part of the benefits valuation:

    - Reduction in unwanted pregnancies
    - Reduction in maternal mortality
    - Reduction in unsafe abortions

There are other gains which have not been accounted for in this costing study, as it would be too complicated and beyond the scope of the project to do so:

    - Reduction in fertility rate, reducing pressure on resources, environment etc.
    - Fewer orphans due to decreased maternal mortality and as a result, lower social costs to the society.

- Increased per capita household expenditure on different activities due to fewer children, leading to more savings.
- Value to mothers of having children by choice rather than by chance.
- Savings resulting from reduced maternal and child mortality which, in turn, will allow resources freed up from household or health sector budgets to be spent on other more productive activities.
- Savings associated with reduction in pregnancy related services (e.g. antenatal care and deliveries).

- **Exchange rate**. Where required the costs were converted into USD using an average exchange rate of 1 USD = 102.561 NPR[1]. It is worth mentioning here that Nepal's economy lately has been deeply unstable mainly due to two reasons, (i) the 2015 earthquake and, (ii) the fuel crisis which almost halted economic activity. Therefore, we opted to take a mid-point exchange rate.

[1] One-year mid-point average rate (2014-15), cited from www.oanda.com

Executive summary

This costing study was conducted as part of the evaluation of the VSC+ pilot in Baitadi and Darchula districts of Nepal. The pilot tested whether the intervention led to an increase in uptake of sterilisation and LARC services. The evaluation was also interested in assessing the main factors affecting or determining the feasibility, replicability and sustainability of the VSC+ pilot model as implemented. The outcomes of this costing study have been incorporated to the evaluation report of the VSC+ pilot.

The pilot tested two modalities of conducting VSC+ camps:

- **Service provision by the District Health Office (DHO) in Baitadi using existing government infrastructure and human resources**. In Baitadi, a trained surgical team from within the district (district hospital) provided comprehensive VSC+ services through the camps. Four sites were selected for implementing camps – one District hospital, one Primary Healthcare Centre (PHCC) and two health posts (HPs). In the district hospital, a fixed day static approach was adopted where VSC+ services were provided by trained providers of the same facility on fixed days throughout the intervention period. On the other hand, this operating team from the district provided sterilization, LARC, injectables and oral contraceptive pills services in the three remotely located facilities where these services are not routinely available.

- **Service provision by a contracted out private provider (MSI) in Darchula**. In Darchula a trained surgical team from outside the district travelled to the district health facilities to provide comprehensive VSC+ services. The four sites selected were one district hospital, one peripheral hospital, and two HPs. Marie Stopes International (MSI) was contracted by NHSSP to provide the services. The MSI team brought with them equipment and supplies that are required and unavailable in the service delivery sites.

As shown in the table below, while the total uptake of family planning services (LARC and sterilisation combined) for modalities A and B was quite similar, the majority of clients under modality A opted for sterilisation (90%), whereas under modality B a larger proportion opted for LARC (58%). This difference in uptake by type of service (to be explained in the evaluation report[2]) has direct implications on the cost-effectiveness results presented in this report for each of the two modalities.

[2] The reasons for such difference are not fully known. They may be related to the counselling provided by MSI service providers in at least two of the camps (Lalinath and Hikila) advising women to opt for LARC instead of Minilap for fear that eventual complications post-minilap might not be properly referred to and treated at the district hospital, the functionality of which was affected by the floods experienced in Darchula district in 2013. However, this remains a working hypothesis rather than a proven fact.

Summary of service uptake in Baitadi and Darchula, 2015

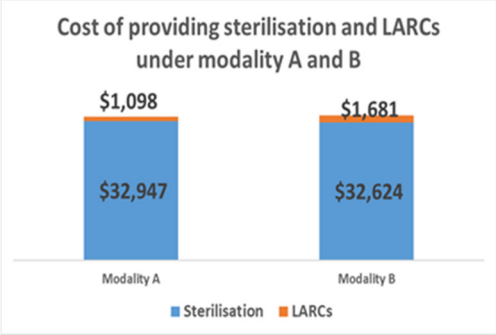
District	LARC	Sterilisation	Total
Baidati	15	134	**149**
Darchula	97	70	**167**
Total	**112**	**204**	**316**

Source: NHSSP data

Main findings

The overall investment in the pilot resulted in provision of FP services to 316 users[3], providing 3,082 couple years of protection (CYP). Under modality A, total of 1,800 CYPs (58 CYPs for LARC and 1,742 CYPs for sterilisation) were delivered as compared to 1,283 CYPs (373 CYPs for LARC and 910 CYPs for sterilisation) delivered under modality B.

The total cost of implementing the pilot project is estimated to be NPR 7.01 million (US$ 68,350) over the evaluation period. The share of modality A in the total costs was 49.8% and 50.2% for modality B.



Costs were bifurcated by fixed and variable and it was found that a larger proportion of costs for the whole pilot were variable costs (58%). This means that 58% of the costs are likely to increase with each camp organised. The proportion between fixed and variable costs was different for each modality, variable costs being 64% and 52% for modality A and B respectively.

We also estimated the additional costs of adding LARC services to the VSC camps using the marginal costing approach. We found that the additional (marginal) costs of adding LARCs to the VSC camps is extremely low in relation to each modality's total cost. This additional cost was calculated to be 3% for modality A and 5% for modality B.

Costs for the entire pilot by modality and by type of method offered.

Modality	Cost by Method ($)		Total Costs ($)
	Sterilisation	LARC	
Modality – A	32,947	1,098	**34,045**
Modality – B	32,624	1,681	**34,306**
Total			**68,351**

An economic model was developed to assess the cost per client and per CYP if LARCs were not provided in the VSC+ camps. The modelling results showed the cost per client and per CYP would have been 49% and 12% higher respectively for the overall pilot.

[3] Only sterilisation and LARC users were counted for the costing analysis. In addition to sterilization and LARC, the VSC+ camp delivered other family planning commodities such as Depo Provera and Oral Contraceptive Pills.

We found that the cost for providing one sterilisation through the VSC+ camp was almost double under modality B ($466) in comparison to modality A ($246). The main driver behind lower costs of sterilisation under modality A was the fact that more number of clients opted for sterilisation under modality A, allowing the fixed costs to be spread over a larger number of users.

The costing study also analysed the variation in cost for providing one LARC. The cost of providing one LARC through the VSC+ camps was more than four times higher under modality A ($73) as compared to modality B ($17). The main reason for this difference is that a significantly larger number of clients under modality B opted for LARC as compared to modality A. We think that the reasons for this difference are contextual and linked to district characteristics of Darchula rather than to intrinsic differences between public and private provision (see footnote 1).

The cost per camp was considered an important information to be analysed. The average cost of conducting one camp under modality B ($2,144) was 24% lower than for modality A ($2,837).

In order to facilitate the planners and policy makers to estimate the resource requirements should the pilot be scaled-up we also calculated the operational cost of running one VSC+ camp. The results are presented below.

Type of cost[4]	**Cost – ($)**	**Explanation**
Category 1	610	This cost will be incurred each time the camp is conducted.
Category 2 – *Sterilisation (per procedure performed)*	8	In addition to category 1 cost, this cost will be incurred for each sterilisation performed.
Category 2 – *Implants (per device inserted)*	11	In addition to category 1 cost, this cost will be incurred for each implant inserted.
Category 2 – *IUCD (per device inserted)*	3	In addition to category 1 cost, this cost will be incurred for each IUCD inserted.

Both modalities are highly cost-effective when compared with the WHO benchmark of costing less than the per capita GDP. However, comparison of the modalities suggests that modality A is more cost-effective than modality B, albeit, the difference is marginal. Adding LARCs to the VSC camps was found to be highly cost effective, as the cost per DALY averted was 7.5 times and 31 times less in comparison to GDP per capita for modalities A and B respectively.

The cost-benefit analysis suggests a good return on investment, where $1 invested in this project is likely to produce a return of $3.5. The cost-benefit was found to be slightly higher in the case of modality A, where $1 produced a return of $3.9 as compared to $3.1 for modality B. The main reason of modality A producing better results is due to the fact that more sterilisations were done under modality A, which translates into more CYPs. To understand this difference it is important to note that one sterilisation provides 13 CYPs,

[4] Category 1 – refers to those costs that are essential to conduct one camp, but will not change (increase/decrease) with the number of clients that take up the service. Category 2 – refers to those costs that will only be incurred if the FP services are provided in the VSC+ camps.

whereas 1 LARC results in less CYPs (for implant = 3.8 and for IUCD = 4.6) Please refer to CYP conversion rates used in Annex 5..

What do the findings mean?

This costing study provides crucial information on the costs of providing family planning services – specifically sterilisation and LARC – through the use of VSC+ camps under two different modalities.

These findings have policy and programme implications to be borne in mind for scalability purposes and at the time of bringing together all the evaluation results. The following preliminary conclusions will be further contextualised in the evaluation report:

- Offering sterilisation services through the VSC+ camps proved to be highly cost-effective under both modalities tested. However, reasons for low uptake of sterilisation under modality B need to be better understood before any scaling-up decision is made.

- The cost effectiveness of the VSC+ camps would improve if these were better organised (ensuring mobilisation reaches the target beneficiaries), if less consecutive camps were held in the same site (spread the sites and limit the camps to, say. two camps per site) and if the duration of each camp was a bit longer. This argument is well supported by the costing analysis, which informs that the major driver of the operational costs is the number of VSC+ camps conducted. These costs include, for example, transporting health workers and equipment to the camp site, airing FM radio messages and so forth. In our analysis we found that such costs are around 55% of the total camp costs.

- While VSC+ camps in Baitadi (modality A) did not prove to be an effective way to increase LARC utilisation, still LARC can (and probably should) be offered in VSC+ camps as LARC provision represents a very small, one off additional investment. Besides, LARC proved to be highly cost-effective even under modality A, where they generated a return of $5.9 for each $ invested.

Finally, while interpreting costing results one should keep in mind the short implementation period of the pilot (four months), as well as the unusual circumstances (earthquake, fuel crisis, commodity shortages) that surrounded pilot implementation. The short implementation period is important in relation to the costing work, because the unit costs might have been lower if the pilot had run for another year or so, as a good proportion of costs in a new intervention are fixed in nature and would have decreased with increased number of new users.

1. Introduction

1.1 Background and justification

The UK Department for International Development (DFID) and the United States Agency for International Development (USAID) in collaboration with the Government of Nepal have been providing for more than a decade technical and financial support to increase access to quality family planning services to the population of Nepal. As part of that support, DFID and USAID commissioned in 2014 a series of evaluations of innovative interventions to increase access to family planning by specific population groups or in geographical areas that are known to have limited access to family planning services.

This costing report refers specifically to the cost of one of the pilot interventions, expanding the range of family planning services through comprehensive VSC events (VSC+) in Baitadi and Darchula districts. While this report will be submitted as a standalone document, its findings are also incorporated into the evaluation report of the VSC+ intervention (submitted separately); the analysis presented in this report is also based and draws on information – particularly information on service uptake – provided in the evaluation report, without which some findings on costing may be difficult to interpret.

The Nepal Family Planning Programme aims to reduce unmet need for contraception and promote the rights of women to exercise choice when selecting a contraceptive method. Unmet need for contraceptives is very high in Nepal, estimated at 27% in 2011, increased from 25% in 2006 according to the Nepal Demographic and Health Surveys (NDHS). The overall contraceptive prevalence rate is also low, estimated at 43% in 2011 for modern methods, reduced from 44% in 2006 (NDHS 2011).

The Government of Nepal (GoN) introduced mobile outreach FP services in the form of 'VSC camps' in the 1970s with a view of increasing access to permanent FP methods especially among the geographically hard-to-reach groups in the areas where the services are not available. VSC camps have shown to be an important way of meeting FP demand where hospital or clinic-based services are not routinely available. Although such camps do not offer a wide range of contraceptive options, they enhance access to permanent methods and are frequently offered free of charge. Consequently, clients spend less on transportation and time away from work and family (MoHP, 2010a).

A few VSC camps also offer short-acting and long-acting reversible contraceptive (LARC) methods in addition to the permanent methods but the range of these additional services varies, depending on the availability of skilled health providers, FP logistics, geographic access, camp location, weather conditions, camp service provider i.e. GoN, NGOs, among others (Wickstrom 2013).

1.2 The pilot intervention and the two implementation modalities

This pilot was implemented between August and December 2015 in Baitadi and Darchula districts, hill districts of Far-western Development Region of Nepal. The Family Health Division (FHD) of the MoH through its DHO and linked health facilities were responsible for implementing the pilot. Implementation was technically supported by the Nepal Health Sector Support Programme (NHSSP) in terms of design, standard operating procedures, training and oversight. Financial support for the pilot and its evaluation were provided by DFID and USAID. Mott MacDonald (MM) and HERD were responsible for the monitoring and evaluation (M&E) of this initiative.

As envisaged at design, it was an operational research intervention that aimed to assess if provision of FP mobile services (VSC, LARC, counselling – hereafter referred to as VSC+) at selected rural health facilities at a regular frequency expands availability, choice and uptake of family planning services in rural Nepal. The intervention integrated LARC and contraceptive counselling services to existing VSC camps, hence the term VSC+ refer to this expanded range of services when compared to the traditional VSC camps. Four sites were selected in both districts on the basis of location, coverage, client expectation, and physical infrastructure in a facility for quality service provision.

The pilot tested two implementation modalities: a) Service provision by the District Health Office (DHO) in Baitadi; and b) Service provision by Marie Stopes International (MSI) in Darchula.

- **Modality A – Service provision by DHO in Baitadi using existing government infrastructure and human resources**. In Baitadi, a trained surgical team from within the district (district hospital) provided comprehensive VSC+ services through the camps. Four sites were selected for implementing camps – one District hospital, one Primary Healthcare Centre (PHCC) and two health posts (HPs). In the district hospital, a fixed day static approach was adopted where VSC+ services were provided by trained providers of the same facility on fixed days throughout the intervention period. On the other hand, this operating team from the district provided sterilization services in the three remotely located facilities where these services are not routinely available.

- **Modality B – Service provision by a contracted out private provider (MSI) in Darchula**. In Darchula a trained surgical team from outside the district travelled to the district health facilities to provide comprehensive VSC+ services. The four sites selected were one district hospital, one peripheral hospital, and two HPs. MSI was contracted by NHSSP to provide the services. The MSI team brought with them equipment and supplies that are required and unavailable in the service delivery sites.

In both modalities the target beneficiaries were men and women of reproductive age. Each modality had a different modus operandi and linked standard operating procedures (SOP) that were prepared by NHSSP at the beginning of the pilot. NHSSP supported the implementation and hel`ped coordinate the logistics of the pilot in both districts

1.3 The study questions and the costing study

An independent monitoring and evaluation was conducted for the pilot project addressing a range of questions. The main evaluation questions were:

1. Does the provision of an expanded range of FP services through comprehensive camps (VSC+) increase the availability, choice and uptake of FP services in rural Nepal?

2. Were the users of VSC+ camps able to choose the FP service/commodity of their choice? Was the choice properly informed through counselling?

3. What is the perspective of beneficiaries/clients about quality of services provided through the camps?

4. Were the advocacy activities by FCHVs and HFOMC effective in raising awareness of comprehensive FP services on offer and to generate demand among men and women of reproductive age?

5. What are the main factors affecting or determining the feasibility, scalability and sustainability of the VSC+ intervention as implemented? What are the lessons for scaling up this approach?

The questions will be covered in the evaluation report submitted separately. This costing study was conducted to assess the costs incurred in providing the sterilisation and LARC services through VSC+ camps. This report analyses the costs associated with the implementation of the VSC+ model, covering both modalities.

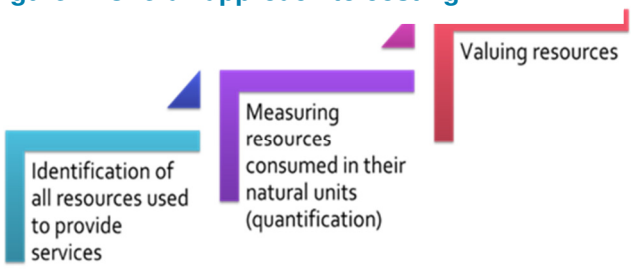
2. Methodology

This section describes the methodology used to calculate costs for implementing the pilot project.

2.1 Overall approach

The overall approach was to identify and value resources used to produce additional family planning services. A distinction is usually made between two types of costing approaches: bottom up and top down. Bottom up costs are derived by calculating the individual unit costs of an item or activity at the service delivery level and then aggregated through consensus or survey. Top down costs are obtained by taking aggregated expenditures of budgets and then apportioning them by level and activities by using allocation factors. A bottom up costing method will often quite accurately describe per patient use of medicines, supplies and lab investigations. For overhead costs such as maintenance and utilities, however, methods of estimating costs through apportionment will be required below the health facility level to the user. Measuring such items accurately may be expensive and yield insufficient additional information to be cost effective. Therefore, this costing exercise uses a combination of bottom up accounting and top down allocations. For example, a bottom-up method was used to determine variable costs of providing sterilisation service, and a top-down method to allocate costs such as 'district level orientation meetings'.

Figure 1: Overall approach to costing



2.2 Cost indicators

The cost related indicators that have been calculated to arrive at cost for delivering the pilot and assessing cost-effectiveness are:

- Average cost per FP user.
  - Average cost per sterilisation user.
  - Average cost per LARC user.
- Average cost per Couple of Years Protection (CYP) for sterilisation and LARC methods.

- Cost per additional Disability Adjusted Life Years (DALY) averted (cost effectiveness – based on converting CYPs delivered to estimated pregnancies and abortions avoided and thus maternal deaths averted).
- Cost benefit analysis or in other words, return on investment
- Cost per camp conducted
- Estimated operational costs of conducting one standard VSC+ camp

2.3 Main steps in costing the pilot

The following costing approach was adopted to assess relevant joint and non-joint costs to be assigned to each cost objective.[5]

(i) **Assign direct, non-joint costs to each type of service that is to be costed.** This involved assigning commodity costs and other medical supplies. E.g. for IUCD insertion visit, cost of IUCD and other supplies which are directly related to the provision of service.[6]

(ii) **Setup costs.** There were setup costs during the period of pilot implementation that will not be repeated. These costs were charged over the life of the pilot.

(iii) **Allocate management costs and overheads to the pilot.** Support in terms of design, technical oversight, logistics management, supervision, capacity building, administration and others was provided through NHSSP office. In this context, these indirect costs and overheads from head office should also be allocated to the pilot. Overhead costs from NHSSP and MSI were obtained and included in the costing calculations

(iv) **Calculate cost per sterilisation and LARC user.** Cost per sterilisation and LARC user was calculated by adding all the costs obtained as above and dividing them by the additional number of sterilisation and LARC users respectively.

2.4 Calculating costs per CYP

Finally, when cost per sterilisation and LARC user was calculated, we converted those into costs per couple-years of protection (CYP). CYP is the estimated number of years of protection against pregnancy provided by contraceptive methods, based on the volume of contraceptives distributed to clients, and adjusted for discontinuation for longer term methods. Standard coefficients are available for each method. We used the USAID coefficients for the type of implant and IUCD used in Nepal (Annex 6). CYPs related to LARCs were further adjusted for discontinuation rates. This is further explained below.

[5] Any particular item for which we want to calculate the cost.

[6] An enquiry among a sample of service providers was made to document the practices of providing sterilisation (both male and female), IUCD and implant services. That in particular involved documenting the use of different supply items to provide service to one client.

So as not to overestimate the total number of CYPs that the intervention achieved, we developed an adjustment factor to account for the discontinuation of contraception methods. A composite adjustment factor was used to adjust CYPs for those who discontinue and those who switch to another method. Scientific evidence was obtained from a study conducted by MSI in 14 countries establishing the discontinuation and switching behaviour.[7] A further calculation using this study was made to arrive at figures more representative of the South Asian region. Table 1 presents the discontinuation rates calculated and used in this costing study.

Table 1: Family planning user's discontinuation rates

Months after Insertion	Percentage Likely to Discontinue
12 months	12.5%
24 months	22.3%
36 months	30.6%

To calculate the adjustment factor incorporating discontinuation and switching rates a simple average of all the above figures is calculated, which comes to 21.8%. This average is multiplied with percentage of Married Women of Reproductive Age (MWRA) who switch to another method (51%) to arrive at an effective discontinuation rate adjusted for switching rate of 10.6%. This rate has been applied to the CYP calculations (only for LARC methods) for the pilot project.

2.5 Calculating costs per DALY

We divided the costs by number of DALYs averted to arrive at the cost per DALY averted. We calculated DALYs by using PSI impact calculator.[8] The tool uses Nepal-specific CYP to DALY conversion factors for the family planning methods under investigation, i.e. sterilisation, implant and IUCD.

Table 2: CYPs to DALY conversion factor

Method	CYP to DALY Conversion Factor
Sterilisation	0.146153
Implant – 5 years	0.189474
IUCD – 10 years	0.191304

[7] Ali, MM et al. (2011) Long-term contraceptive protection, discontinuation behaviour and switching practices: Intrauterine device (IUD) use dynamics in 14 developing countries. WHO and Marie Stopes International.

[8] Available at http://impactcalculator.psi.org/

3. Cost analysis

3.1 Sterilisation and LARC uptake used for the costing analysis

The evaluation looked at many different aspects using different data collection tools and sources, the detail of which is provided in the evaluation report and will not be repeated here. For costing purposes the most important information from the evaluation is the Sterilisation and LARC uptake achieved under each modality, summarised in tables 3, 4 and 5. In our costing study we did not include uptake of Depo services as the cost associated is negligible due to extremely low uptake (only 9 users of Depo in total – 1 for Baitadi and 8 for Darchula)[9].

Table 3: Modality A – Uptake of Sterilisation and LARC in Baitadi, 2015

Health Facility	Minilap	Vasectomy	Implants	IUCD
District Hospital	8	1	1	-
Haat	46	15	3	1
Kulau	20	2	-	-
Talladehi	31	11	10	-
Total	**105**	**29**	**14**	**1**
Average per VSC+ camp (12 camps)	**8.75**	**2.42**	**1.17**	**0.08**

Source: NHSSP data

Table 4: Modality B – Uptake of Sterilisation and LARC in Darchula, 2015

Health Facility	Minilap	Vasectomy	Implants	IUCD
District Hospital	14	16	8	5
Hikila	8	12	17	-
Gokuleshwor	4	9	15	-
Latinath	1	6	52	-
Total	**27**	**43**	**92**	**5**
Average per VSC+ camp (16 camps)	**1.69**	**2.69**	**5.75**	**0.31**

Source: NHSSP data

[9] Total CYPs are for this method are 2.25 only (9*0.25), this accounts for 0.07% of the CYPS generated by sterilisation and LARCs.

Table 5: Summary of service uptake in Baitadi and Darchula, 2015

District	LARC	Sterilisation	Total
Baidati	15	134	**149**
Darchula	97	70	**167**
Total	**112**	**204**	**316**

Source: NHSSP data

The intervention (both modalities combined) resulted in uptake of services (sterilisation and LARC) by 316 users. Uptake of services under modality B was 12% more than under modality A.

We note a significant (and largely unexplained) difference in the composition of FP users under each modality. In modality A, 90% of the users opted for sterilisation services as compared to only 42% under modality B, where the majority of users (58%) chose LARC instead of sterilisation. These differences have significant implications for the cost analysis that will be discussed along this report.

3.2 Pilot implementation costs

This section presents the costs of implementing the pilot for each modality. Annex 5 (Glossary of key terms used) presents a detailed explanation of the costing terminology used; Annex 1 and 2 provide details on which cost items have been classified as fixed and variable.

3.2.1 Total pilot implementation costs – different dimensions

The total cost of the pilot project has been estimated to be NPR 7.01 million ($68,350) over the four months implementation period. The share of modality A in the total costs was 49.8% and 50.2% for modality B. This essentially means that both the modalities costed almost the same amount of money to implement. Table 6 below provides a summary of costs for the pilot broken down by each modality.

Table 6: Costs by implementation modality

Modality	NPR	$
Modality A	3,491,644	34,045
Modality B	3,518,438	34,306
Total	**7,010,082**	**68,351**

We also calculated the fixed and variable costs[10] for the intervention as a whole as well as for each modality, as summarised in table 7 below. For both interventions combined a larger proportion (58%) of costs were variable costs, meaning that 58% of the total costs will increase with the increase in the number of camps conducted. While the variable costs would increase with the increase in the number of camps, the fixed costs remain fixed and would actually decrease as more camps are conducted.

[10] Please see annex 4 for definition of fixed and variable costs.

Modality wise, the proportion of fixed to variable costs was roughly the same (48% and 52% respectively) for modality B whereas for modality A variable costs were higher than fixed costs and represented 63% of the implementation costs of that modality. The main driver behind higher variable costs under modality A was the higher management costs under modality A in comparison to modality B.

Table 7: Costs by implementation modality – fixed and variable

Detail	Fixed		Variable		Total	
	NPR	$	NPR	$	NPR	$
Modality – A	1,269,881	12,832	2,221,763	21,663	**3,491,644**	**34,045**
Modality – B	1,682,507	16,405	1,835,931	17,901	**3,518,438**	**34,306**
Total	**2,952,388**	**29,237**	**4,057,694**	**39,564**	**7,010,082**	**68,351**
(%) share	**42%**		**58%**		**100%**	

3.2.2 Implementation costs excluding the pilot setup costs

Implementation costs were also analysed after excluding the setup costs, i.e. the costs of setting up a programme that will not be incurred if the pilot was scaled up. We found that the setup costs were around 11% of the total cost of the pilot. We also found that the setup costs of modality A were 1.5 times higher in comparison to modality B, whereas the operational costs of implementing each modality were quite similar. The major driver of higher setup costs under modality A is mainly due to the higher management costs under this modality as compared to modality B. Table 8 lists cost items included to calculate implementation costs under both modalities. This was used to generate operational costs, shown in Table 9.

Table 8: Cost items relevant to scale-up (excluding setup costs)

Cost items	Modality	
	A	B
Cost of FM messages	X	X
Cost of FP commodities, drugs and supplies	X	X
Cost of providing family planning equipment	X	X
Cost of office supplies and other admin expenses	X	X
Costs of monitoring, supervision and quality assurance	X	X
Costs of pre and post VSC+ meetings	X	X
Incentives to clients	X	X
Incentives to health workers	X	X
Management overheads	X	X
Mobilisation expenditures for conducting camps	X	X
Payment of salaries		X

Table 9: Setup and operational costs

Detail	Setup costs		Operational costs	
	NPR	$	NPR	$
Modality – A	476,833	4,649	3,014,810	29,395
Modality – B	314,404	3,066	3,204,034	31,240
Total	**791,237**	**7,715**	**6,218,844**	**60,635**

Table 10 shows that the implementation costs (excluding setup costs) were 37% fixed and 63% variable.

Table 10: Costs by implementation modality - fixed and variable costs

Detail	Fixed		Variable		Total	
	NPR	$	NPR	$	NPR	$
Modality – A	890,432	8,682	2,124,379	20,713	**3,014,810**	**29,395**
Modality – B	1,380,157	13,457	1,823,877	17,783	**3,204,034**	**31,240**
Total	**2,270,589**	**22,139**	**3,948,256**	**38,496**	**6,263,123**	**60,635**
(%) share	**37%**		**63%**		**100%**	

In section 3.2.1 we have briefly discussed the importance of fixed and variable costs and how they change with changing levels of services. Fixed and variable costs are also important to calculate resources required when deciding to scale up a pilot project, in this case including more health facilities (health camps) and/or increasing the number of VSC+ camps conducted. In this context it is important to know what costs will increase with each additional camp held (i.e. variable costs) and what costs will be required to enable a health facility to act as a health camp to provide the service (i.e. fixed costs).

To conclude, the fixed costs are likely to go up with additional health facilities enabled to provide VSC+ services (or enabled to conduct health camps). This is primarily because setting up a health facility to enable it to provide VSC+ camp services will require one-time investment such as provision of relevant equipment, conducting QI assessment and so forth. These costs are fixed in nature and will not change with the number of camps held, as the equipment once purchased can be used to conduct a number of camps.

On the other hand, variable costs are also likely to go up but not related to setting up a health facility to deliver VSC+ camps but related to actually running the VSC+ camps. Unlike the fixed costs, this cost will be incurred every time a camp is held. These costs include for example, cost of supplies required to provide vasectomy, cost of incentives given to the health workers for dealing each case, payment of transportation to bring the health worker to the camp site and so forth. Please refer to annex 1 and 2 for details on which costs were classified as fixed and variable.

3.2.3 Cost of adding LARC services to VSC camps

As part of this costing study we tried to estimate the additional cost of adding LARC services to the VSC camps. To estimate this, we used the marginal costing approach. According to this approach we only considered those costs that were incurred only as a direct result of providing LARC services. Table 11 presents the cost items that were included to calculate cost of LARC provision.

Table 11: Cost items included to calculate marginal cost of providing LARCs

Cost items	Modality	
	A	B
Cost of FP commodities, drugs and supplies	X	X
Cost of providing family planning equipment	X	X
Incentives to health workers	X	X
Management overheads	X	X

There are two broader types of marginal costs associated with adding LARCs to the VSC camps. The first type ***(type 1)*** of marginal costs is to enable the camps so that they can provide LARC services (e.g. ensuring availability of relevant equipment such as insertion and removal kits). The second type of marginal costs ***(type 2)*** is associated with the number of LARCs actually delivered (e.g. number of implants inserted and associated cost of implant devices etc.). While the first type of cost will increase with the number of health facilities (health camps) added, the second type of costs will increase as more women take up LARC services.

The marginal costs of adding LARCs to the health camps and then providing the service was found to be very low in relation to the total project cost. For the overall pilot, the marginal cost (type 1 and type 2) of providing the LARC services was a mere 4% of the total costs (calculation based on the table 11 above). As for each modality, the marginal costs (type 1 and 2 combined) of providing LARCs under modality A was 3% and 5% for modality B. The main reason explaining differences by modality was the higher number of LARCs delivered through modality B when compared to modality A. Table 12 below provides a summary of costs for adding LARCs to VSC camps under both modalities.

Table 12: Costs of adding LARC services to VSC camps under the pilot project

Detail	Type 1 costs		Type 2 costs		Total	
	NPR	$	NPR	$	NPR	$
Modality – A	72,634	708	39,959	390	112,593	1,098
Modality – B	68,153	665	104,284	1,017	172,437	1,681
Total	**140,787**	**1,373**	**144,243**	**1,407**	**285,030**	**2,779**

3.3 Unit cost analysis

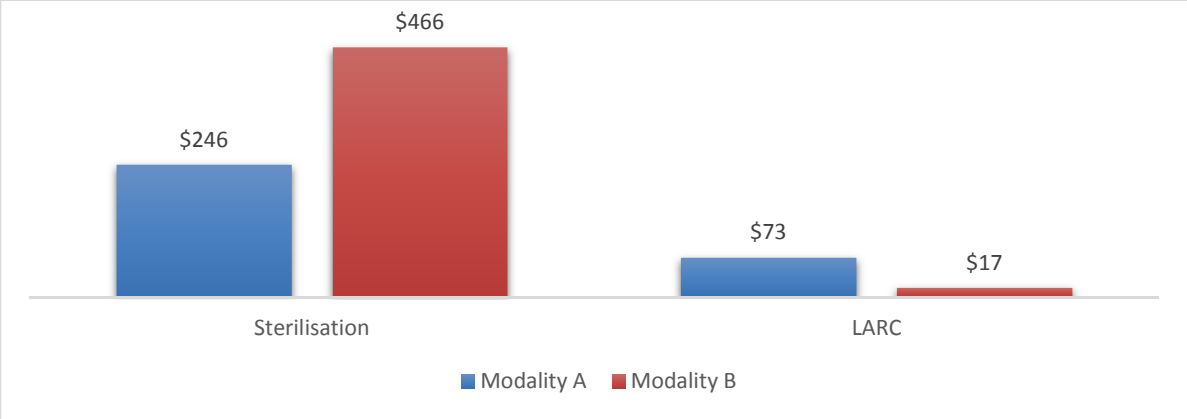
This section provides information and analysis on different unit costs. An attempt has been made to provide information by modality and by type of method (i.e. sterilisation or LARC), to the extent possible.

3.3.1 Unit costs for pilot project implementation

Cost per sterilisation and LARC user

We calculated the unit cost (both set up and running costs) for providing sterilisation and LARC services to one user for each modality.

Figure 2: Unit costs per sterilisation and LARC user by modality



The cost of reaching one sterilisation user through VSC+ camps was found to be almost twice under modality B in comparison to modality A. The main reason for this difference was that that the number of sterilisation users under modality A (134 users) were almost double in comparison to modality B (70 users). This practically meant that the setup and fixed costs were shared by a greater number of sterilisation users in modality A, making it less costly in comparison to modality B.

In contrast, cost of one LARC user reached through the VSC+ camp was more than 4 times higher for modality A when compared to modality B. As before, the main reason for the difference is linked to the higher uptake of LARC under modality B (97 users) which was 6 times higher than that measured for modality A (15 users). Therefore, the fixed and set up costs (which were quite similar for each modality) had to be divided by a larger number of LARC users in the case of modality.

Cost per CYP

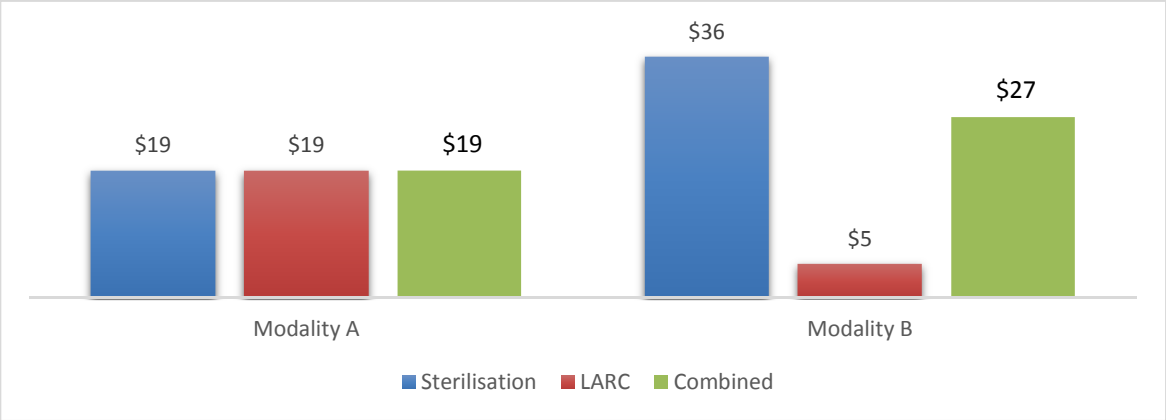
We also calculated cost per CYP[11], which is another way of looking at the outputs of family planning programmes, i.e. in terms of protection provided against the risk of pregnancy. Using CYPs, we can aggregate costs of providing protection over the time period during

[11] Many studies have used CYP as an indicator, which is defined as the amount of contraceptive commodity and/or service necessary to protect a couple from pregnancy for one year. This indicator expresses in common units the protection provided through each combination of method and delivery system.

which a method is used. Then, instead of talking about costs of visits made for specific purposes (acceptance, revisit, discontinuation) we can talk about costs during the time period of contraceptive protection.

Under modality A, total of 1,800 CYPs (58 CYPs for LARC and 1,742 CYPs for sterilisation) were delivered as compared to 1,283 CYPs (373 CYPs for LARC and 910 CYPs for sterilisation) delivered under modality B.

Figure 3: Cost per CYP



The cost per CYP for sterilisation services was higher under modality B, while the cost per CYP for providing LARC services was higher under modality A.

We also calculated the average cost (combined CYPs for sterilisation and LARC) per CYP for both modalities and found that the cost per CYP was 1.4 time higher ($ 8 per additional CYP) for modality B when compared with modality A.

The main factor behind these higher/lower costs per CYP for each modality remains the same as explained in preceding paragraphs i.e. the differences in the numbers of family planning methods – LARC and sterilisation- adopted under each modality. For example, the reason for lower cost per CYP under modality A is mainly because more clients opted for sterilisation which, as a permanent method, offers the highest CYP. Indeed, one sterilisation provides 13 CYPs, whereas 1 LARC results in less CYPs (for implant = 3.8 and for IUCD = 4.6)[12].

All the above means that the costing results per CYP need to be very carefully interpreted. While provision of sterilisation services is a more cost-effective method, the fact that sterilisation cannot be reversed (unlike LARCs) comes with a big opportunity cost and is very difficult to monetise (and way beyond the scope of this study).

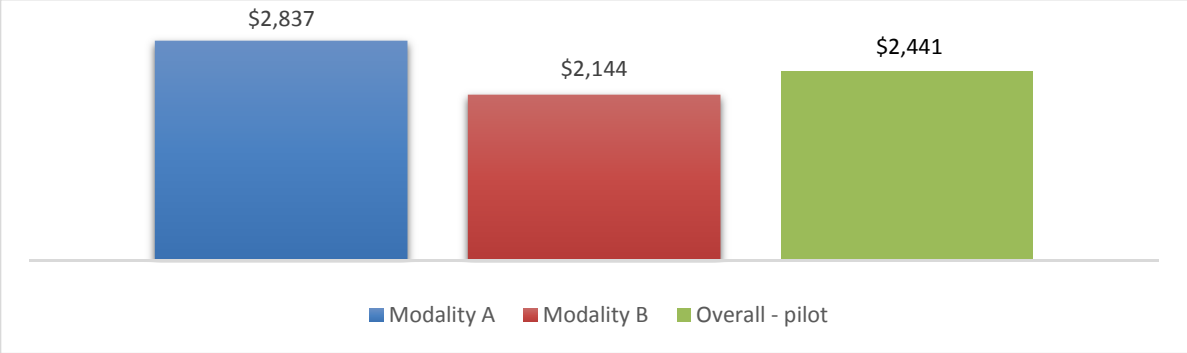
Average cost per camp

The average cost of conducting one camp was different for both modalities, with the average cost per camp under modality B being 24% less than for modality A. The primary reason was that 12 camps were conducted under modality A compared to 16 camps under modality B.

[12] cited from https://www.usaid.gov/what-we-do/global-health/family-planning/couple-years-protection-cyp - on 10th February, 2016.

The greater number of camps under modality B allowed the fixed cost to be spread over more camps making the cost per camp lower.

Figure 4: Average cost per camp



Cost per client, camp and CYP – what if LARCs were not provided?

We modelled the costing results to see how the costs would have differed if LARCs had not been provided and the only service provided had been sterilisation (that is, the traditional VSC approach). The modelling results showed that the total costs and cost per camp would have been 4% lower, whereas, the cost per client and the cost per CYP would have been 49% and 12% higher respectively.

Table 13: Key unit costs with and without LARC services

Details	VSC+ ($)	If LARCs were not included ($)
Cost per camp conducted	2,441	2,342
Cost per client reached	216	321
Cost per CYP	22	25

The table above suggests that it is cost-effective to include LARC services to the VSC camps as this adds minimal additional costs which in turn result in lower cost per client reached and cost per CYP.

3.3.2 Unit costs for implementation (excluding setup costs)

In order to better understand the costs for scaling-up the pilot project, we excluded the set up costs and calculated the key unit costs [i.e. cost per (i) sterilisation user; (ii) LARC user, (iii) per camp conducted and (iv) per CYP].

Table 14: Unit costs for VSC+ pilot project excluding setup costs

Implementation modality	Cost per ($)			
	Sterilisation user	LARC user	Camp conducted	CYP
Modality A	211	73	2,450	16

Modality B	422	17	1,953	24
Total – average for the pilot	**284**	**25**	**2,166**	**20**

Information in table 14 presents the unit costs by each modality for (i) sterilisation users, (ii) LARC users, (iii) per camp conducted and (iv) costs per CYP. Similar information has been presented in section 3.3.1, the difference here is that this table excludes the costs of setting up the pilot project. For example, the cost per CYP under modality A was $19 (figure 3), but only $16 if we exclude the cost of setting up the pilot (table 14).

3.4 Cost-effectiveness and benefit analysis

3.4.1 Cost per DALY averted – cost-effectiveness

We calculated the cost per DALY averted: (i) for each implementation modality; and (ii) by type of method offered (i.e. sterilisation and LARC). This calculation attempted to answer primarily: (a) which modality was more cost-effective in comparison to the other and; (b) if adding LARCs to the VSC camps was cost-effective.

Comparing the implementation modalities

To assess cost effectiveness, we used the WHO benchmark[13]. The analysis shows that both modalities are highly cost-effective when compared with the benchmark. However, when modalities are compared with one another, modality A is more cost-effective (Figure 5). The primary reason for that is that modality A delivered more sterilisations than modality B, rather than anything else relating to the intervention as such.

Figure 5: Cost effectiveness of both modalities

Note: In this figure the costs shown for modalities A and B represent the cost per DALY averted

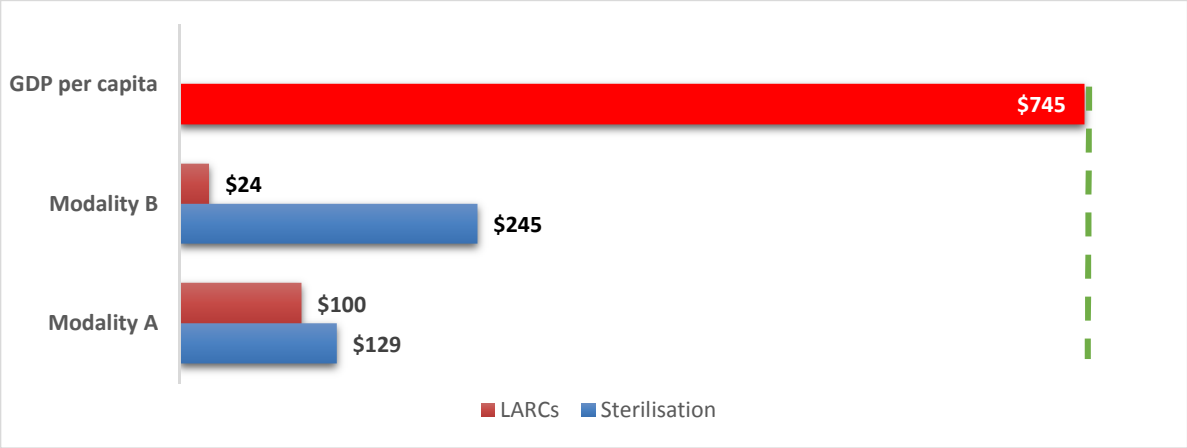
As Figure 5 shows, the cost per DALY averted is slightly higher (1.3 times) for modality B than for modality A. Cost per DALY averted under modality A is almost 6 (5.8) times lower than the GDP per capita, whereas this cost is almost 4 times (4.4) lower than the GDP benchmark for modality B.

[13] An intervention is termed very cost-effective or cost-effective if the cost per DALY is less than the per capita GDP or between 1 and 3 times per capita GDP, respectively. If the cost per DALY is more than three times the GDP per capita, the intervention is classified as not cost-effective.

Comparing the cost effectiveness of the two methods offered

Using the same WHO benchmark we further analysed the cost-effectiveness of the two FP methods offered i.e. sterilisation and LARCs.

Figure 6: Cost effectiveness (cost per DALY averted) of the two modalities by type of FP method uptaken



Note: In this figure the costs shown for modalities A and B represent the cost per DALY averted

Figure 6 illustrates that adding LARCs to the existing VSC camps is highly cost-effective as the additional costs are minimum (refer to section 3.3.1) and this argument stands true for both the modalities. However, cost per DALY averted for LARCs was almost 4 times less under modality B as compared to modality A because of the greater number of clients taking up LARCs under modality B.

Based on this analysis one can say that adding LARCs to the VSC camps is highly cost-effective and can be offered at a very low cost.

3.4.2 Cost benefit analysis

We also estimated the benefit (in monetary terms) of DALYs averted as a consequence of client taking up FP services (sterilisation and LARCs) in the VSC+ camps. We monetised the averted DALYs using the GDP per capita of Nepal and discounted the DALYs over the time that their efficacy lasts using a 10% social discount rate. These DALYs were further adjusted for method switchers and discontinuers (only for LARC users).

For the overall pilot the return on investment is high: we estimated that $1 invested produced a return of $3.5. The returns for modality A ($3.9) were marginally higher (1.2 times) than for modality B ($3.1).

Table 15: Cost to benefit ration – USD ($)

Implementation modality	Cost to benefit ratio ($)		
	Sterilisation	LARCs	Overall
Modality – A	3.8	5.9	**3.9**
Modality – B	2.0	25.1	**3.1**
Overall – pilot average			**3.5**

While adding LARCs to the VSC camps seems promising in terms of returns generated on investment, however, adding LARCs under modality B generated more than 4 times the return as compared to modality A.

3.5 Estimating cost of conducting one standard VSC+ camp

In order to assist policy makers and planners, we further modelled the costs obtained from pilot implementation to estimate the likely costs of conducting a standard VSC+ camp. The information under this section can also be important for estimating resource requirements if the VSC+ was to be scaled-up[14]. For the purpose of enabling the understanding of this section among a wider audience we have reduced and simplified health economics terminology.

In order to develop these estimates we carefully studied different costs items involved and their behaviour (i.e. how they change in different scenarios). It is important to clarify that we only included the operational costs involved in conducting a camp. We classified the costs associated to run a standard VSC+ camp under two categories, referred to as category 1 and category 2, hereinafter.

Category 1 – refers to those costs that are essential to conduct one camp, but will not change (increase/decrease) with the number of clients that take up the service. For example, the cost of transportation paid to bring the health workers on camp site, this cost has no relation to the number of clients that will end up taking sterilisation or LARC services. Even if no one takes up the service the cost will need to be born. Similar is the example of cost of airing camp messages on FM radio.

Category 2 – refers to those costs that will only be incurred if the FP services are provided in the VSC+ camps. For example, the cost of implant device or the cost of surgical supplies used in sterilisation. These costs are directly associated with the number of clients who take the respective service: the more number of clients, the higher the cost and vice versa. The category 2 costs were further sub-divided into sterilisation and LARCs.

Table 16: Unit costs to run a standard VSC+ camp

Details	Cost – ($)	Explanation
Category 1	610	This cost will be incurred each time the camp is conducted.
Category 2 – *Sterilisation (per procedure performed)*	8	In addition to category 1 cost, this cost will be incurred for each sterilisation performed.
Category 2 – *Implants (per device inserted)*	11	In addition to category 1 cost, this cost will be incurred for each implant inserted.
Category 2 – *IUCD (per device inserted)*	3	In addition to category 1 cost, this cost will be incurred for each IUCD inserted.

[14] Please note that these estimates are based on modality – A (i.e. costs obtained from Baitadi). We did not have micro level details of expenditure made under modality B, however, with the available information we did not see any major differences in costs between both the modalities.

4. Preliminary conclusions

This costing study provides crucial information on the costs of providing family planning services – specifically sterilisation and LARC – through the use of health VSC camps under two different modalities: service provision by DHO in Baitadi (modality A) and contracting out service provision to MSI in Darchula (modality B).

Overall, the pilot intervention was highly cost-effective. However, modality A was only marginally more cost-effective than modality B, largely because twice as many sterilisations were delivered under modality A. For similar reasons, the return on investment for modality A was slightly better ($ 3.9 for each $ invested) than for modality B ($ 3.1 for each $ invested).

While we have tried to make a comparison of costing results for both modalities, such comparison needs to be read with caution, as the main differences observed between the two modalities have less to do with the modality as such (both attracted a similar number of clients) than with the choice of family planning methods –sterilisation or LARC. made by clients. Under modality A 90% of the clients opted for sterilisation, whereas only 42% opted for the same under modality B. These differences are the main factors explaining why one modality or commodity appears more or less cost effective or cost beneficial than the other. It is not unreasonable to predict that if the proportion of LARC and sterilisations had been similar in both modalities the differences observed would practically disappear, while the intervention would not lose its proven cost effectiveness and cost benefit regardless of the modality

We assessed the additional costs involved in adding LARCs to the VSC camps and found that they represent a mere 4% of the total pilot implementation costs, so adding LARC to VSC camps can be done at almost no additional expense. This was further confirmed by low cost per DALY averted and high returns on investment. We also assessed if adding LARC services to the VSC model was cost-effective or not. The analysis revealed that it is highly cost effective to include the LARCs in the existing VSC camps.

These findings have policy and programme implications to be borne in mind for scalability purposes and at the time of bringing together all the evaluation results. The following preliminary conclusions will be further contextualised in the evaluation report:

- Offering sterilisation services through the VSC+ camps proved to be highly cost-effective under both modalities tested. However, the reasons for low uptake of sterilisation and higher uptake of LARC under modality B need to be better understood before any scaling-up decision is made. What needs to be better understood is if the lower uptake of sterilisation and higher uptake of LARC under modality B was a result

of client choice or may have been influenced by the type of mobilisation performed (and the messages spread in it) or by the counselling provided to clients.

- The cost effectiveness of the VSC+ camps would improve if these were better organised (ensuring mobilisation reaches the target beneficiaries), if less consecutive camps were held in the same site (spread the sites and limit the camps to, say. two camps per site) and if the duration of each camp was a bit longer. This argument is well supported by the costing analysis, which informs that the major driver of the operational costs is the number of VSC+ camps conducted. These costs include, for example, transporting health workers and equipment to the camp site, airing FM radio messages and so forth. In our analysis we found that such costs are around 55% of the total camp costs.

- While VSC+ camps in Baitadi (modality A) were less effective in mobilising and attracting potential LARC users LARC can (and should) still be offered with very minimal additional one-time investment required. In any case, LARC delivery through both modalities proved to be highly cost-effective and generated a return of $5.9 for each $ invested.

Finally, while interpreting costing results one should keep in mind the short implementation period of the pilot (five months), as well as the unusual circumstances (earthquake, fuel crisis, commodity shortages) that surrounded pilot implementation. The short implementation period is important in relation to the costing work, because the unit costs might have been lower if the pilot had run for another year or so, as a good proportion of costs in a new intervention are fixed in nature and would have decreased with increased number of new users.

Annex 1 Detailed costs by activity – modality A

Sr. No.	Details	Cost Type	Cost - NPR		
			Sterilisation	LARC	Total
1	Cost of FM messages	V	20,044	-	**20,044**
2	Cost of FP commodities, drugs and supplies	V	90,352	31,028	**121,380**
3	Cost of office supplies and other admin expenses	F	90,148	-	**90,148**
4	Cost of providing family planning equipment	F	742,484	57,800	**800,284**
5	Costs of conducting QI assessment	F	115,695	-	**115,695**
6	Costs of district consultation and planning meetings	F	263,754	-	**263,754**
7	Costs of monitoring, supervision and quality assurance	V	556,586	-	**556,586**
8	Costs of pre and post VSC+ meetings	V	273,850	-	**273,850**
9	Incentives to clients	V	30,769	-	**30,769**
10	Incentives to health workers	V	42,215	770	**42,985**
11	Management overheads - setup costs	V	97,384	-	**97,384**
12	Management overheads - operational costs	V	592,724	22,995	**615,719**
13	Mobilisation expenditures for conducting camps	V	463,046	-	**463,046**
	Grand Total		**3,379,051**	**112,593**	**3,491,644**

F = fixed costs

V = variable costs

Annex 2 Detailed costs by activity modality B

Sr. No.	Details	Cost Type	Cost - NPR		
			Sterilisation	LARC	Total
1	Cost of FM messages	V	12,000	-	**12,000**
2	Cost of FP commodities, drugs and supplies	V	22,527	100,286	**122,813**
3	Cost of office supplies and other admin expenses	F	187,483	-	**187,483**
4	Cost of providing family planning equipment	F	649,778	65,540	**715,318**
5	Costs of conducting QI assessment	F	1,363	-	**1,363**
6	Costs of district consultation and planning meetings	F	300,988	-	**300,988**
7	Costs of monitoring, supervision and quality assurance	V	55,811	-	**55,811**
8	Costs of pre and post VSC+ meetings	V	127,970	-	**127,970**
9	Management overheads - setup costs	V	12,053	-	**12,053**
10	Management overheads - operational costs	V	116,222	6,611	**122,833**
11	Mobilisation expenditures for conducting camps	V	1,382,451	-	**1,382,451**
12	Payment of salaries	F	477,356	-	**477,356**
	Grand Total		**3,346,001**	**172,437**	**3,518,438**

F = fixed costs

V = variable costs

Annex 3 Operational costs – modality A

Sr. No.	Details	Cost - NPR		
		Sterilisation	LARC	Total
1	Cost of FM messages	20,044	-	**20,044**
2	Cost of FP commodities, drugs and supplies	90,352	31,028	**121,380**
3	Cost of office supplies and other admin expenses	90,148	-	**90,148**
4	Cost of providing family planning equipment	742,484	57,800	**800,284**
7	Costs of monitoring, supervision and quality assurance	556,586	-	**556,586**
8	Costs of pre and post VSC+ meetings	273,850	-	**273,850**
9	Incentives to clients	30,769	-	**30,769**
10	Incentives to health workers	42,215	770	**42,985**
12	Management overheads - operational costs	592,724	22,995	**615,719**
13	Mobilisation expenditures for conducting camps	463,046	-	**463,046**
	Grand Total	**2,902,217**	**112,593**	**3,014,810**

Annex 4 Operational costs – modality B

Sr. No.	Details	Cost - NPR		
		Sterilisation	LARC	Total
1	Cost of FM messages	12,000	-	**12,000**
2	Cost of FP commodities, drugs and supplies	22,527	100,286	**122,813**
3	Cost of office supplies and other admin expenses	187,483	-	**187,483**
4	Cost of providing family planning equipment	649,778	65,540	**715,318**
7	Costs of monitoring, supervision and quality assurance	55,811	-	**55,811**
8	Costs of pre and post VSC+ meetings	127,970	-	**127,970**
10	Management overheads - operational costs	116,222	6,611	**122,833**
11	Mobilisation expenditures for conducting camps	1,382,451	-	**1,382,451**
12	Payment of salaries	477,356	-	**477,356**
	Grand Total	**3,031,597**	**172,437**	**3,204,034**

Annex 5 Cost classifications: glossary of terms

Calculating cost information can provide answers to various different types of questions, ranging from policy issues to comparing performance of different services and making projections of future costs of scaling up. For evaluating pilot projects, cost information is required to assess the cost effectiveness and cost benefit of the proposed approach and also is vital to assess the scaling up of services.

Costs that are incurred in producing a service can be classified in several different ways. Costs can be classified as direct and indirect costs, fixed and variable, average and marginal, capital and recurrent and common costs. These costs are briefly explained below.

Direct and Indirect Costs

Direct costs are referred to as those costs which can be clearly and directly linked to the provision of services. For example, the cost of contraceptives in providing family planning services. Costs which cannot be directly related to a service are known as indirect costs, these costs are incurred to support the main service provision activities. These can include costs of monitoring activities, utilities or salaries of accounts and administration staff.

Fixed and Variable Costs

Costs that do not change in total with the change in level of activity (an example of level of activity can be number of contraceptive users) are classified as fixed costs. Fixed costs remain constant up to a certain level of activity e.g. a store room is rented at £50 per month to store contraceptives, the room has a capacity to store 1000 boxes. The rent will remain fixed whether 10 boxes are stored or 990 boxes, so up to 1000 boxes rent will remain the same. Variable costs are those which vary with changes in level of activity e.g. costs of contraceptives will increase/decrease with the increase/decrease in number of users.

Average and Marginal (referred as additional costs in the report) Costs

Average cost is defined as the total cost divided by the number of units of output, whereas marginal cost is the additional cost required to produce one more unit of output. One difference between the assessment of average costs and marginal costs is that fixed costs are included in average costs, but are not usually considered in marginal costs. The issue of when to focus on average costs and when to focus on marginal costs relates directly to the research question being asked. For example, if we want to determine the costs of adding a visiting provider to an existing health service, then it is likely to be more useful to consider the marginal costs of service expansion.

Capital and Recurrent Costs

Capital costs are defined as the annual cost of resources that have a life expectancy of more than one year, e.g. buildings, vehicles and equipment. Whereas recurrent costs are defined as costs associated with inputs that are consumed in one year or less, for example, utility bills, consumable health products to staff costs.

Joint (common costs) and Non Joint Costs

While costs are allocated amongst different services produced, it is important to distinguish between joint costs or non-joint costs. Joint costs are those which are incurred for a specific set of services being delivered and not for one specific service or a particular client, e.g. cost of a nurse who is providing family planning, antenatal care services and treatment of sick children. On the other hand, non-joint costs are those which are incurred for performing a particular service, e.g. cost of an IUCD as a commodity.

Annex 6 CYP conversion factors

Method	CYP Per Unit
Copper-T 380-A IUD	4.6 CYP per IUD inserted (3.3 for 5 year IUD 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

Source: cited from https://www.usaid.gov/what-we-do/global-health/family-planning/couple-years-protection-cyp - on 10th February