The Economic Cost of Violence Against Women and Girls

A Study of Lesotho

The Commonwealth

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Contents

Abbreviations and Acronyms

APS	average propensity to spend
CHAL	Christian Health Association of Lesotho
DALYs	disability adjusted life years
DFID	Department for International Development (UK)
GBV	gender-based violence
GDP	gross domestic product
HIV/AIDS	human immunodeficiency virus / acquired immune deficiency syndrome
ILO	International Labour Organization
IOM	input-output matrix
IPV	intimate partner violence
Lf	female work (productive) days
Lm	male work (productive) days
Maloti	Lesotho currency
NGOs	non-governmental organisations
QALYs	quality–adjusted life years
QMMH	Queen Mamohato Memorial Hospital
SADC	Southern African Development Community
SAM	social accounting matrix
SDGs	Sustainable Development Goals
UN	United Nations
UN	UN Children's Fund
UNFPA	UN Population Fund
UNODC	UN Office on Drugs and Crime
VAW	violence against women
VAWG	violence against women and girls
VSL	value of statistical life
WHO	World Health Organization

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Summary

Background

1. International commitments to attain gender equality and end violence against women and girls (VAWG) are at the heart of Commonwealth priorities for sustainable development and economic growth. Following on from these commitments, the Secretariat has embarked on a project on the Economic Costs of VAWG, which seeks to contribute to the efforts to end VAWG through development of a ground-breaking framework – complementary to those based on needs and justice – which will determine the economic cost of VAWG for various sectors in the economy, and ultimately for the state.

2. The prime objective of the project is to develop a comprehensive framework in a user-friendly computing environment to assess the economic cost of VAWG. A review of the literature indicates that studies to date have mostly focused on the direct costs of violence, with few attempting to measure the indirect costs (Commonwealth Secretariat 2017c). At the same time, none of these methodologies can capture the full economic impact of VAWG due to lack of data and their inability to capture sectoral linkages. The ambition of the Commonwealth project is to overcome these problems by applying an economy-wide modelling approach, which enables the capture of important linkages and secondary effects to assess the full impact of VAWG.

3. Estimating the full cost on VAWG will enable governments to understand the benefits of prevention and/or management of VAWG. It will also provide a basis for evidence-based decision-making, which is essential for choosing particular interventions and/or policies. Furthermore, the data gathered for this framework will be useful for states when reporting on the Sustainable Development Goals (SDGs), in particular SDG 5[1] and SDG 16.[2] The data-gathering process also provides an opportunity to assess the strength of the statistical system, which is crucial to measure progress across all of the goals in a way that is both inclusive and fair.

4. Lesotho is the second Commonwealth country where the framework has been applied using real country-level data and information. This report presents the outcome of applying the newly developed framework/methodology to Lesotho.

Methodology

5. The methodology includes three types of costs:

   - **Direct costs:** including the cost of medical treatment for physical and sexual abuses – doctors/hospital bills for physical injuries; the cost of psychosocial care; the cost of law enforcement/the police; and loss of earned income due to absence from work, as well as loss of imputed earnings from being unable to attend to household activities, including childcare etc.

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1 SDG 5: Achieve gender equality and empower all women and girls. See: https://sustainabledevelopment.un.org/sdg5

2 SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. See: https://sustainabledevelopment.un.org/sdg16

- **Indirect costs:** which measure reduced gross domestic product (GDP) because of the decline in private consumption due to loss of female earnings. Reduced private consumption expenditure leads to a decline in effective demand and subsequently gross domestic product – because of their inter-dependence in the circular flow of income generation in an economy (in economic literature, these effects are known as the 'first round impacts' of any shock or intervention).

- **Induced costs** capture the further reduction (i.e. the 'second round effects') in GDP due to loss of demand for the products (unaffected in the first round) which are linked with the products that are affected indirectly.

The costing module used consists of four building blocks. There are three building blocks for the direct cost component and one building block for the indirect cost component.

6. The three blocks of the direct cost component comprise:

- Three types of cost approaches: (a) the unit cost approach; (b) the proportional operating cost approach; and (c) the total operational cost approach.

- Three categories of costs: (a) cost of services; (b) personal material losses and cash expenses of survivors due to violence; and (c) income loss due to irreversible population loss (deaths) and reversible, temporary and permanent disability due to gender-based[3] violence (GBV), as well as reduced work productivity of survivors.

- An important observation is the high latency (under-reporting) of offences against women and girls according to official statistics. Thus, estimates based only on official statistics may produce a huge underestimation of the economic cost of violence. Accordingly, a sensible approach is for cost to be estimated at two levels or using two scenarios:

    – First, cost estimation based on official or survey data (in other words, estimates based on micro- and meso-level data). According to the literature, such economic cost estimates are said to be based on a **'typical' scenario** (or case) using the official police statistics on offences.

    – Second, a so-called **'full coverage' scenario** (or case) – that is, a cost estimate that is based on a simulation model using the violence prevalence rates and features of survivors contained in population-based surveys. This may also be referred to as a macro-level cost estimate.

7. The economy-wide cost (i.e. this single building block comprises indirect as well as induced costs) of VAWG is estimated using a multiplier model based on an economy-wide database. The two most widely used economy-wide data sets are the input–output matrix (IOM) and the social accounting matrix (SAM). One outcome of the direct cost of VAWG is loss of workdays leading to loss of income. Income loss in turn leads to a reduction in private consumption expenditure, with a subsequent negative impact on commodity demand and supply of goods and services in the economy. As production of goods and services depends on purchases of other goods and services, loss of female

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3 This report follows the convention of using terms VAWG and GBV interchangeably, because most GBV is perpetrated by men against women.

workdays (a direct impact of VAWG) may indirectly lead to a further loss of output due to this economy-wide effect. The authors of this report use an economy-wide database or model to capture these indirect impacts of the direct cost of VAWG. In other words, they use a multiplier model derived from full economy-wide data to assess the indirect cost of VAWG.

8. This is a data demanding exercise. Unlike the other economic statistics, data required for the numerical specifications of the model were not readily available in Lesotho. The project made a heavy investment in data collection. Four missions were carried out (i.e. inception and data-collection missions), while a thorough review of the literature and statistics was also conducted. The researchers met with more than 75 stakeholders. One exclusive expert group consultation involving 25 experts was conducted to gather data, as well as to cover gaps in the information set. Furthermore, a primary survey was conducted to gather recent information on the prevalence of VAWG as well as some important data on the economic aspects of VAWG – which are usually not covered in traditional VAWG surveys. The primary survey was conducted in four districts (i.e. Leribe, Maseru, Mafeteng and Thaba-Tseka) covering 800 females aged between 15 and 64 years as the targeted population for the survey. The age range from 15 to 64 was set in accordance to the Expert Group Meeting's recommendation, to help with data collection for SDG 5. In each of the four identified districts, 200 women and girls aged between 15 and 64 years were sampled. A two-staged sampling was carried out, with stratified random sampling used in the second stage to gather the data'.

Estimated cost of VAWG

9. The framework outlined in this report is numerically specified to 2017 data and parameters for Lesotho, since a majority of relevant data and parameters were found for that year.

   The main findings are summarised in Table A.

10. **Total cost:** The estimated total economic cost of VAWG in Lesotho is provided for both the typical case and full coverage case. The total economic cost of VAWG under the *typical case* was 462.9 million maloti (Lesotho's currency, M) also implying 1.333% of 2017 GDP. This comprised an estimated direct cost of M428.2 million (1.234% of GDP) plus an economy-wide indirect cost of M34.7 million (0.100% GDP).

11. Under the full coverage case, the simulated (or derived) number of VAWG victims was based on population data that identified the number of women in the age cohort between 15 and 64 in 2017 to be 627,488 (Bureau of Statistics 2017).]. Using this number – 627,488 – and a VAWG prevalence rate of 31.1 per cent (primary survey 2019), the number of survivors in the full coverage case was estimated to be 195,149. By comparison, the number of survivors as reported in official administrative data was 9,453. As a result, estimated total cost under the full coverage case was substantially higher than in the typical case.

   The total cost under the **full coverage case** was estimated as M1,926.0 million (5.548% of GDP). This was made up of the estimated direct cost of M1,250.4 million (3.602% of GDP) and the economy-wide indirect cost of M675.6 million (1.946% of GDP).

Table S.1 Summary of cost of VAWG (million maloti)

Cost categories	Typical case		Full coverage case	
	Cost	% of 2017 GDP	Cost	% of 2017 GDP
A. Direct cost	428.2	1.234	1,250.4	3.602
Services cost	388.4	1.120	770.1	2.218
Healthcare	1.4	0.004	140.6	0.405
Law enforcement and the judiciary	100.1	0.288	314.8	0.907
Social and specialised services	1.9	0.005	29.5	0.085
Learning time loss (education)	285.2	0.822	285.2	0.822
Divorce cost	15.9	0.046	15.9	0.046
Personal cost	4.4	0.013	88.8	0.256
Income lost	19.4	0.056	375.6	1.082
B. Economy-wide cost (indirect and induced)	34.7	0.100	675.6	1.946
Agriculture	*4.2*	*0.012*	*82.5*	*0.238*
Industry	*21.1*	*0.062*	*410.5*	*1.182*
Services	*9.4*	*0.027*	*182.6*	*0.526*
C. Total cost (direct + economy-wide)	*462.9*	**1.334**	*1,926.0*	*5.548*
Memorandum items				
Cost to girls				0.822
Cost to adult female				2.780
Cost to the private sector				1.946
Cost to the public sector (fiscal cost)				2.264

Source: Lesotho costing model.

12. **Direct cost:** Direct cost is composed of costs of various services; personal costs (out-of-pocket expenses by survivors); and income loss.

   • *Direct cost (typical case):* Learning time lost in primary school (which is not reported in most other economic cost of VAWG studies) was highest, estimated at M285.2 million (0.822% of GDP). Among the various types of services, the cost of law enforcement turned out to be largest: M100.1 million (0.288% of GDP). A new element in the Lesotho costing exercise was the incorporation of the cost of divorce. It was argued (by the High Court in Lesotho) that VAW was the major cause of divorce in Lesotho. Due to the relatively small overall number of divorce cases, and following advice from the judiciary that VAWG seemed to be a feature in a significant proportion of these, all divorce cases were included in order to estimate the cost of divorce, resulting in the estimated total cost of divorce in 2017 to be M15.9 million or (0.046% of GDP).

   • *Direct cost (full coverage case):* Costs for four cost derivers found in the typical case – learning time lost (education), irreversible income loss due to VAWG-related death, divorce costs and specialised services (shelter) – were kept unchanged under the full coverage case, since they are based on supposedly 'full coverage' data. Thus, the costs for law enforcement, health services, social services, specialised services, personal cost and income lost were re-estimated under the full coverage case.

The most dramatic increase was found for income loss under the full coverage case compared to the typical case. Income lost increased to M375.6 million in the full coverage case. Total direct cost under the full coverage case was M1,250.4 million (3.602%of GDP).

13. **Economy-wide indirect cost:** A data SAM for Lesotho was updated for 2017 using a 2007 SAM and other required national accounts data for 2017. The data SAM was converted into a SAM multiplier model. Following this approach, two consumption shocks were set up and then used with the multiplier model to simulate output loss under the 'typical' case and 'full coverage' case.

- **Typical case:** The income loss under the 'typical' case was M19.4 million. Thus, household (private consumption) was reduced by M19.4 million to simulate the impact on domestic output. Simulated output loss under the 'typical' case was M34.7 million (0.100% of 2017 GDP). The industry sector was found to be most affected among the three broad sector categories, with a bill of M21.1 million.

- **Full coverage case:** The income loss under the 'full coverage' case was M375.6 million. Thus, household (private consumption) was reduced by M375.6 million to simulate the impact on domestic output. Simulated output loss under the 'full coverage' case was M675.6 million (1.946% of 2017 GDP). The Industry sector was the most affected among the three broad sector categories, with a bill of M410.5 million (1.182% of 2017 GDP).

Conclusion

14. An important finding of the costing exercise that features in this report was that the deleterious effects of VAWG encompass everyone in the society. For instance, the **cost of VAWG to girls was 0.822 per cent of GDP** (or learning time lost in school); the **cost to adult women was around 2.780 per cent of GDP; the fiscal cost to the public sector or government was 2.264 per cent of GDP; the cost to the private sector was 1.946 per cent of GDP**; and thus the cost to the whole of **society was 5.548 per cent of GDP** (Source Table A). The recognition of the significant impact that VAWG has on Lesotho's economy – in addition to appreciation that VAWG damages the health and well-being of those affected and their families, is a public health problem and a violation of women's human rights – needs to be followed up by co-ordinated actions in order to eliminate VAWG.

15. Special attention and policy actions are required in particular for the health, education and judicial sectors, and for private sector actors and corporations. **Healthcare data** collection in Lesotho was not able to capture the use of healthcare services by VAWG survivors. The following steps could help healthcare services to better cater to the needs of VAWG victims:

- modification of the forms used for data collation;

- digitisation of data collection and sharing;

- training and capacity building provided for relevant staff on VAWG and data/ information collection, preservation, assessment and dissemination; and

- revisiting the healthcare budget to allocate adequate funds to carry out these activities.

16. **Learning time lost** due to VAWG may have far-reaching implications on productivity and hence future earning potentials. The following steps could help improve education services:

- empower the schools either through employing dedicated school welfare personnel in each school or a cluster of schools (i.e. considering budgetary expenditure); or by imparting training to some of the existing teachers to deal with cases relating to VAWG;

- arrange special meetings with parents at regular intervals to find out ways to deal with such cases;

- digitise data collection and sharing; and

- revisit the education budget to allocate adequate funds to carry out these activities.

17. Similarly, special attention may be given to **law enforcement** (i.e. the police and judiciary):

- digitisation of data collection and sharing; and

- training and capacity building provided for relevant staff on VAWG and data/ information collection, preservation, assessment and dissemination.

18. The costing exercise revealed that the **private sector** is not immune to the cost of VAWG. In 2017, it incurred the cost equivalent to 1.946 per cent of GDP. Helping to guarantee employees' well-being, in conjunction with the need to mitigate such significant costs to businesses, should translate into a coherent response to VAWG, with the help of specialist women's rights organisations. Finally, the cost to the public sector – or fiscal cost – was 2.264 per cent of GDP. Elimination of VAWG can help save this amount of government resources – perhaps for more judicious uses.

19. This report presents the development of a comprehensive economic costing model for Lesotho to estimate the cost of VAWG, using country-level data and parameters. The model was developed in an MS Excel environment and is a live product – officials and other stakeholders could update the results with new and more concrete information. Moreover, it can also be modified or extended to cover new areas or categories, which could not be included at this stage due to lack of data and specifications. Some of these areas include workplace violence, income loss due to permanent incapacity and emotional intimate partner violence (IPV)/GBV.

20. VAWG is a major violation of human rights and a major public health issue. These aspects, coupled with the high economic cost of such violence, require immediate and effective actions by the national authority. Following the above findings, the Department of Gender in collaboration with relevant stakeholders (including other government agencies) must formulate effective strategies to prevent and eradicated VAWG.

21. In this context, governments may formulate strategies in line with the 'whole system' approach. The whole system approach focuses on three important aspects: prevention, provision and protection. Furthermore, strategies or policies may include enabling policies (e.g. enacting a domestic violence bill) and strengthening the capacity of the service providers. Governments may also prioritise the identified strategies over a short-, medium- and long-term period considering their importance, resource constraints and implementation capacity. To ensure success of such initiatives and programmes, the necessary financial and human resources need to be put in place.

1. Introduction

International commitments towards attaining gender equality and ending violence against women and girls (VAWG) are at the heart of Commonwealth priorities. Commitments to end VAWG are enshrined in:

- The Commonwealth Charter 2013 (The Commonwealth 2013);

- The Commonwealth Priorities for Gender Equality 2017–2020, endorsed by the 11th Commonwealth Women's Affairs Ministers Meeting (Sept 2016) (The Commonwealth 2017b); and

- The Secretariat Strategic Plan 2017/18–2020/21 as a crosscutting outcome (The Commonwealth 2017a).

These commitments were also reaffirmed in 2018 by the Commonwealth Heads of Government Meeting (CHOGM), whereby Heads called for the Commonwealth to ratify and implement the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), through legislation, policies and programmes that to end VAWG include the Sustainable Development Goals (SDGs) – specifically SDG 5 – and the African Union's legally binding Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa ('the Maputo Protocol'), which specifically addresses, in Article 5, the elimination of female genital mutilation (FGM) and, through Article 14, women's experiences of the HIV/mainstream and promote gender equality and the empowerment of all women and girls in social, economic and political life (Commonwealth Secretariat 2018). International and regional efforts AIDS pandemic.

The Secretariat's project on the Economic Cost of VAWG seeks to contribute to efforts to end VAWG by developing a ground-breaking framework – complementary to those based on needs and justice – which will determine the economic cost of VAWG for various sectors in the economy, and ultimately for the state.

The prime objective of the project is to develop a comprehensive framework to assess the economic cost of VAWG. A review of the literature indicates that studies conducted so far have mostly focused on the direct costs of violence, with few studies also attempting to measure the indirect costs (Commonwealth Secretariat 2017c). Indeed, none of these methodologies have been able to capture the full economic impact of VAWG, due to lack of data and their inability to capture sectoral linkages.

The ambition of this project is to overcome these problems by applying an economy-wide modelling approach, which will enable the capture of important linkages and secondary effects to assess the full impact of VAWG. Estimating the full cost on VAWG will in turn enable governments to understand the benefits of prevention and/or management of VAWG. It will also provide a basis for evidence-based decision-making, which is essential for choosing particular interventions and/or policies.

Furthermore, the data gathered for this framework will be useful for governments when reporting on the SDGs, in particular SDG 5, but also SDG 16 and SDG 17 (see Box 1.1). Finally, the data-gathering process also provides an opportunity to assess the strength of the country in question's statistical system, which is crucial for measuring progress across all the goals in a way that is both inclusive and fair.

The methodology adopted to estimate the costs of VAWG uses an economy-wide model and comprises a direct cost component and an indirect cost component. The costing methodology was applied here to Lesotho, with the findings of the exercise presented in this report.

Estimates reported here refer to the year 2017. Cost estimates are presented for a typical case (i.e. micro- or meso-level estimates) and a full coverage case (i.e. macro-level estimates). The typical case estimates are based on administrative data and parameters[1] (i.e. either readily available data, such as the unit cost of healthcare services, or derived data, such as per capita value added by an employed person). The full coverage case estimates are based on a simulated number of survivors based on age cohort population data (i.e. in this case, the

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1   The parameters refer to prevalence rates of different types of violence, assault and harassment; the unit cost of various services; wage rates; and per capita gross domestic product (GDP) etc.

Box 1.1 Sustainable Development Goals – data gathering will help reporting

SDG 5: Achieve gender equality and empower all women and girls

Violence against women and girls' targets only:

5.1   *End all forms of discrimination against all women and girls everywhere;*

5.2   *Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation;*

5.3   *Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.*

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Targets related to violence:

16.1   *Significantly reduce all forms of violence and related death rates everywhere;*

16.2   *End abuse, exploitation, trafficking and all forms of violence against and torture of children.*

SDG 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development

Targets related to high-quality gender data:

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts;

17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

female population aged between 15 and 64 in 2017) with the parameters (including cost of services) used in the typical case.

Given the lack of information on the comprehensive costs of VAWG, this framework enables an enhanced understanding of the actual cost of VAWG, thus contributes to raising awareness of the scale of the problem and increases willingness to act. Furthermore, it will form a baseline from which to conduct a cost–benefit analysis of potential interventions aimed at the prevention and eradication of VAWG.

The use of VAWG data to determine the economic cost has multiple benefits:

Preventing VAWG is cost-effective

Addressing the economic costs of VAWG contributes to preventing violence and lays the foundations for gender equality and empowerment.

Knowing the costs of VAWG allows governments to establish the cost of inaction and thus of failure to prevent VAWG. It also provides strong arguments to governments that investing in prevention programmes that treat the causes of VAWG are far more economical and cost-effective than treating the symptoms. The use of VAWG data reaffirms focus and channels momentum behind establishing a culture to address VAWG and provide a basis for evidence-based decision-making, which is essential for choosing particular interventions and/or policies.

Preventing VAWG and investing in gender equality and empowerment is vital for economic growth

There is a multiplier effect that comes from investing in VAWG prevention, gender equality and empowerment. For example, investing in a girl's education contributes to a country's economic

growth and raises the average gross domestic product (GDP) of that country. Likewise, investing in health increases the likelihood that a girl will complete school and, as a result, perhaps find a job that improves her quality of life and lifts her out of poverty. Delaying parenthood, eliminating child marriage and preventing intimate partner violence are equally all positive indirect effects to investing in girls' education and health. Through this, women's participation in the economy can be increased and opportunities for their leadership can be encouraged and supported. If by 2025, the gap between male and female economic participation rates can be closed by 25 per cent, then the International Labour Organization (ILO) estimates some US$5.8 trillion could be added to the world economy and unlock large tax revenues (ILO 2017).

Data revolution for sustainable development and gender equality

The 2030 Agenda for Sustainable Development encourages all member countries to 'conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven' (United Nations, undated), which will serve as a basis for the regular reviews by the high-level political forum (HLPF), meeting under the auspices of the UN Economic and Social Council (ECOSOC). Data gathered for the use within this framework can and should be used when compiling member countries' national reports on the SDGs, in particular on SDG 5 and SDG 16, thus ensuring a better and more expedient way of reporting. Furthermore, the data-gathering process provides an opportunity to ascertain data gaps and assess the strength of a country's statistical system. These are not only crucial for measurement of progress across all of the SDGs in a way that is both inclusive and fair, but also for accelerating progress on ending extreme poverty, combating climate change, and ensuring a healthy, free from violence and prosperous life for all.

The remainder of this report consists of eight more chapters. Chapter 2 summarises some relevant methodologies and estimates available at the global level, sourced via a review of the literature. Key facts on VAWG pertaining to Lesotho are presented in Chapter 3. The methodology applied for this project is then elaborated in Chapter 4. Approaches to estimate the direct cost of VAWG in the typical case are discussed in Chapter 5, while Chapter 6 elaborates approaches to estimate the direct cost of VAWG under the full coverage case. Approaches to estimate the economy-wide/indirect cost (for both the typical and full coverage cases) are explained in Chapter 7. Finally, key outcomes are summarised in Chapter 8, with concluding observations and recommendations provided in Chapter 9.

2. Approaches to Estimating Economic Costs of VAWG: A Review of the Literature

The literature review focused on issues relevant to the current exercise: first, to find methodologies recommended for a group of states or countries, since a prime objective here was to further develop and refine the Commonwealth methodology for economic costs of VAWG, and to look for methods where the problem of VAWG under-reporting in administrative data or sample surveys, resulting in underestimation of the economic costs, was addressed; third, to assess some recent trends in VAWG relevant to economic cost estimates; and fourth, to find studies that attempted to consider the value for money offered by measures to prevent VAWG.

2.1 Methodology and data

When a generalised framework is developed for a number of member states, researchers are constrained by factors as such as the availability of data; comparability of statistics across member states; and special features of the group. Under such a situation, the researcher may opt for a pragmatic rather than ambitious approach. In this case, a generalised framework such of this was a rare find in the literature. Yet an attempt was accomplished by Sylvia Walby and Philippa Olive under the aegis of the European Institute for Gender Equality (EIGE) in 2014, where they tried to identify and recommend appropriate methodologies to measure the cost of gender-based and intimate partner violence (GBV/IPV) for the European Union (EU)-28 member states. We believe the recommendations of this study are relevant for the current study, since it also aimed to develop a generalised framework for the Commonwealth member states.[1] Hence, the approaches and data requirements identified by the EIGE study are elaborated below.

The EIGE study recommended an accounting-type approach based on three types of costs – 'unit' cost; 'proportional' cost; and 'full' cost. The study identified seven clusters of costs:

1. Lost income (lost economic output)

2. Health (emergency, general and mental health services)

3. Legal sector (criminal justice and civil justice systems)

4. Social welfare (housing and child protection)

5. Personal costs (cost of property damage, moving home, legal expenses)

6. Specialised services (refuges, telephone helplines, support centres and specialist government interventions)

7. Physical and emotional impact (physical and emotional impact on victims)

The costing specifications recommended in the study may be generalised by the following equation:

$$\textit{Economic Cost}_j = \textit{Unit Cost}_j \times \textit{Multiplier}_j$$
$$(\text{or } \textit{Proportional Multiplier}_j)$$

Where, j = 1...7 – seven clusters; multiplier refers to data (e.g. number of IPV homicides or percentage of referrals to children's social services because of abuse and/or neglect); and proportional multipliers[2] are used to specify aspects where it is important to separate the total into costs related to GBV or otherwise.

The study also identified data requirements according to the seven clusters, above; these are summarised in Box 2.1.

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1 The present study aims to develop an implementable framework for Commonwealth member states, while encompassing the key characteristics of comprehensiveness, transferability and flexibility to adjust to new specifications and data.

2 More specifically, the proportional multiplier has been described as follows: 'if the cost data source also provides non–intimate partner violence services then the proportion of total budgets/expenditures attributable to intimate partner violence should be estimated (Proportion of domestic violence that is IPV ~75%; Proportion of all VAW that is IPV ~40%)', EIGE (2014), p.108.

Box 2.1 Data requirements for the EU-28 country study

Area A: The extent of gender–based and intimate partner violence against women:

Types of data:

> *The number of victims (prevalence) in the last year*

> *The number of incidents (frequency, type and severity, in the last year)*

Area B: The direct impact of intimate partner violence on the individual women concerned:

Types of data:

> *The injuries to health*

> *Increased family breakdown*

Area C: The extent of services utilised by women affected by violence:

Types of data:

> *Victim support*

> *Health services*

> *Legal services*

Area D: Cost of services utilised

Area E: The impact of the violence on employment for the women affected:

Types of data:

> *Number days of employment lost*

> *GDP (or income) per employed person*

Area F: The value placed on avoiding the physical and emotional impact of intimate partner violence and/or the value placed on the reduced quality–adjusted life years (QALYs) or disability adjusted life years (DALYs)

Source: EIGE (2014).

The study adopted seven approaches to generate the required data for the costing studies:

1. Expert judgement

2. Victim recall studies

3. Surveys

4. Administrative data

5. Population data sets

6. Studies of similar harms

7. Specialised research projects

An important development in costing methodology is to use age cohort population data to simulate or extrapolate an estimate based on administrative and survey data to arrive at a macro-level estimate. This approach is appealing due to the high latency/

under-reporting of offences – which is even more pronounced in developing countries or countries with weak administrative record keeping. Two recent attempts in this category include a study on Ukraine by the UN Population Fund and the UK Department for International Development (UNFPA and DFID 2017) and a study on Vietnam by Duvvury et al. (2012).

UNPFA and DFID Ukraine study (2017): in this study, the prevalence rates as reported in the official data were extrapolated onto the whole female population of Ukraine in the age cohort of 15–59 to simulate the number of survivors (or victims) of GBV. This was used to arrive at indicative numbers of recipients of services (such as medical services) that were provided but not reflected in the official data (p.71). Costs of various services or clusters were applied to the simulated

number of victims to assess the potential macro-level economic cost of VAW. In the Ukraine study, the costs calculated using the administrative data was referred to as the 'typical' case, while the costs based on the simulated numbers of victims was referred to as the 'full coverage' case. The cost specifications for these two cases are summarised below:

Typical case: $Economic\ Cost_j = Unit\ Cost_j \times Victims_j$ *(based on administrative data)*

Full coverage case: $Economic\ Cost_j = Unit\ Cost_j \times Victims_j$ *(based on derived data)*[3]

Duvvury et al. Vietnam study (2012): a similar approach was adopted in the Vietnam study to give macro-level estimates. A macro estimate was extrapolated based on the incidence rate (as determined in the study) and the prevalence data reported by the General Statistics Office. These two rates (i.e. the incidence and prevalence rates) were used to extrapolate onto the whole population for the age cohort 18–49 to determine the number of potential victims of VAW seeking various services. The unit values of various services or cost clusters were applied onto the simulated number of victims to assess the potential macro-level economic cost of VAW in Vietnam (p.44).

2.2 Estimated economic cost of VAW

Economic cost estimates vary considerably depending on methodology, coverage of cost categories, numbers of survivors or incidents, cost of services etc. Some recent and striking cost estimates are reported here.

The EIGE (2014) study provided cost estimates for all 28 EU member states. The estimates are an extrapolation of UK cost estimates, applying country population multipliers (i.e. multipliers of the other 27 member states). The results reveal some important insights:

- The number of incidents, thus cost of GBV, are dominated by GBV against women in contrast to GBV against men. EU estimates reconfirm this trend. More than 87 per cent of the estimated total cost of GBV – which was 1.92 per cent of 2012 EU GDP – was accounted for by GBV against women. This also suggests that although there is evidence of violence against men, a disproportionate number of GBV survivors/victims are women (see Table 2.1 for details).

- The costs of IPV or IPV against women (IPVAW) are the dominant source of cost – accounting for about 50 per cent of total GBV cost.

Two recent studies which tried to incorporate macro-level estimates on the basis of the under-reporting of VAW statistics, also produced some interesting and important outcomes (for details, see Table 2.2):

- The UNFPA and DFID study on Ukraine estimated that that the macro-level costs were 20 times higher than the costs based on administrative data (i.e. the typical case).

- The Vietnam study also reported a hugely larger number of incidents, as well as economic costs of VAW, under the macro case (i.e. the full coverage case) compared to the case based on administrative data (i.e. the typical case).

- The main argument for the full coverage case (the macro-level estimates of the economic cost of VAW) is the prevalence of high invisibility of offences reported in the administrative data; this is especially the case in developing countries or where administrative data are weak.

A recent paper prepared by Fearon and Hoeffler (2014), under the aegis of the Copenhagen Consensus Centre, reported the astonishing cost of domestic violence: 11.1 per cent of world GDP. Costs related to VAW and children were also reported to be high, at 5.3 per cent and 4.3 per cent of world GDP respectively (Figure 2.1). These high estimates highlight the importance of establishing immediate corrective measures to reduce, prevent and eventually eliminate the incidence of VAW.

2.3 Estimated benefits of investment in preventing VAW

There is reluctance among policy-makers to invest in 'soft' sectors such as the social sectors, and projects on gender and children, compared to investment in 'hard' sectors (e.g. infrastructure and energy), because such investment is seen to

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3   The number of survivors is simulated (or derived) in the full coverage case using official population data for women, usually aged between 15 and 64.

Table 2.1 Economic cost of IPV and GBV in EU-28 in 2012 (billion euros)

	Member state	Cost of IPVAW	Cost of IPV	Cost of GBVAW	Cost of GBV
1	Austria	1.82	2.04	3.76	4.31
2	Belgium	2.40	2.69	4.97	5.69
3	Bulgaria	1.58	1.77	3.28	3.76
4	Croatia	0.92	1.04	1.91	2.19
5	Cyprus	0.19	0.21	0.39	0.44
6	Czech Republic	2.27	2.54	4.70	5.39
7	Denmark	1.21	1.35	2.50	2.86
8	Estonia	0.29	0.32	0.59	0.68
9	Finland	1.17	1.31	2.42	2.77
10	France	14.12	15.81	29.22	33.48
11	Germany	17.37	19.45	35.95	41.19
12	Greece	2.41	2.69	4.98	5.70
13	Hungary	2.15	2.40	4.45	5.09
14	Ireland	0.99	1.11	2.05	2.35
15	Italy	12.85	14.38	26.58	30.45
16	Latvia	0.44	0.50	0.92	1.05
17	Lithuania	0.65	0.73	1.34	1.54
18	Luxembourg	0.11	0.13	0.23	0.27
19	Malta	0.09	0.10	0.19	0.21
20	Netherlands	3.62	4.05	7.49	8.58
21	Poland	8.33	9.33	17.25	19.76
22	Portugal	2.28	2.55	4.72	5.41
23	Romania	4.35	4.87	8.99	10.30
24	Slovakia	1.17	1.31	2.42	2.77
25	Slovenia	0.44	0.50	0.92	1.05
26	Spain	10.13	11.34	20.95	24.01
27	Sweden	2.05	2.30	4.24	4.86
28	United Kingdom	13.73	15.37	28.42	32.56
Total EU 28		109.13	122.18	225.84	258.73
As % 2012 EU GDP		0.81	0.91	1.68	1.92
Female share (%)		89.3		87.3	

Source: Based on Table 6.1 of EIGE (2014).
Note: IPVW refers to IPV against women and GBVAW denotes GBV against women.

enlarge the proximate productive capacity of an economy, leading to higher growth. However, recent global estimates of the economic costs of VAW show that the loss to economy due to such violence is significant.

Considering the importance of investment in VAW prevention, recent studies have been trying to quantify the benefit–cost ratio (or, in the other words, the value for money) of investing in measures to eliminate (or prevent) VAW. Although the cost of interventions is relatively easy to determine, it is difficult asses the benefits of such interventions. The UNFPA and DFID study (2017), argued that 'international studies demonstrate that each $1

Table 2.2 Economic cost of VAW: comparison between typical case and full coverage case

	Number of survivors		Cost	
	Typical case	Full coverage case	Typical case	Full coverage case
Ukraine			*In 000 $*	*In 000 $*
1. Lost income	710	16,694	97	3,870
2. Cost of services	120,737	150,863	10,681	14,149
3. Personal cost		366,394		190,033
Total	*121,447*	*533,951*	*10,778*	*208,052*
Vietnam			*In 000 VND*	*In 000 VND*
1. Out-of-pocket expenditure	236	19,812,268	141,600	11,887,000,000
2. Lost income	148	19,812,268	79,214	21,225,000,000
3. Value of missed household work	3,168	19,812,268	27,076	10,052,000,000
Total	*3,552*	*19,812,268*	*247,890*	*43,164,000,000*

Note: VND = Vietnamese dong.

invested in GBV prevention saves the economy $5 to $20 in future service cost'. On the basis of these estimates, it urged Ukrainian authorities to discard the currently practised 'left over' principle for budgeting interventions to prevent VAW.

The study by the Copenhagen Consensus Centre, on the other hand, provided detail on the benefit–cost ratios for interventions aimed at preventing violence, including VAW. Even though the report acknowledged that measuring the benefits of interventions to prevent domestic violence was difficult, it provided benefit–cost ratios for certain interventions. The estimated benefit–cost ratios were high, suggesting good value for money in investing in programmes to prevent domestic violence (Figure 2.2).

2.4 VAWG literature review: Lesotho

A thorough desk review of available VAWG-related reports and studies on Lesotho was conducted. The focus of the desk review was predominantly to find out the state of VAWG in Lesotho – especially with respect to the extent of VAWG for a recent year; strategies and policies adopted to lessen the incidence of VAWG; and parameters for the economic costing model on VAWG.

'Indicators Study' (Gender Links 2013)

A key study covering various dimensions of VAWG in Lesotho was the 'Indicators Study' produced by

Figure 2.1 Estimated cost of domestic violence (% of World GDP)
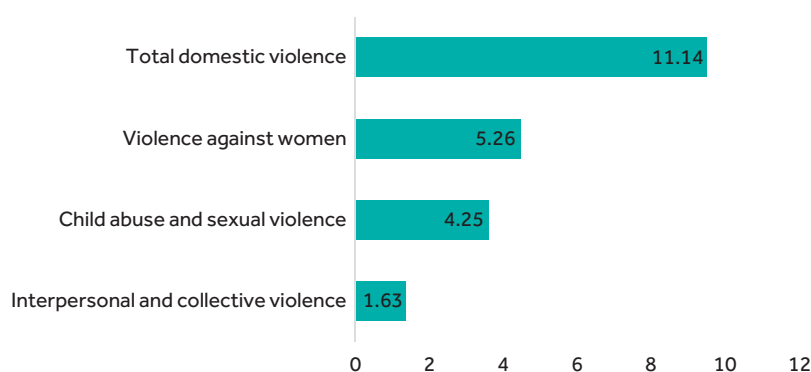
Source: Fearon and Hoeffler (2014).

Figure 2.2 Estimated benefit–cost ratio (BCR) of interventions
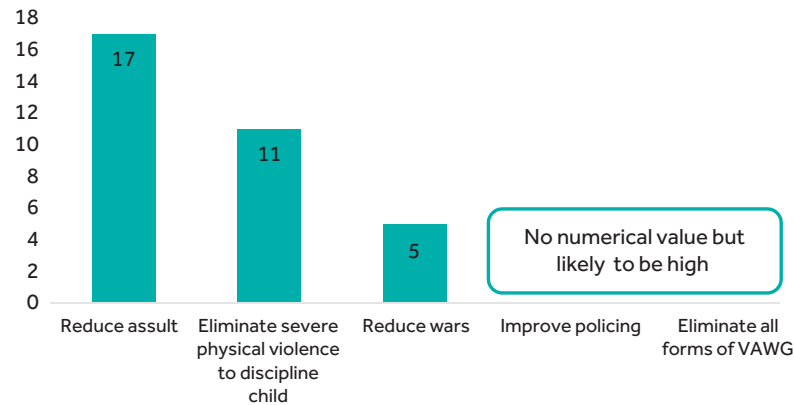
Source: Fearon and Hoeffler (2014).

Figure 2.3 Forms of violence and IPV experienced in a lifetime ('Indicators Study')

Panel A: Forms of violence experienced in a lifetime (%)

Panel B: Forms of IPV experienced in a lifetime (%)

Panel C: IPV experienced in last 12 months (%)

Panel D: Forms of IPV experienced in last 12 months (%)
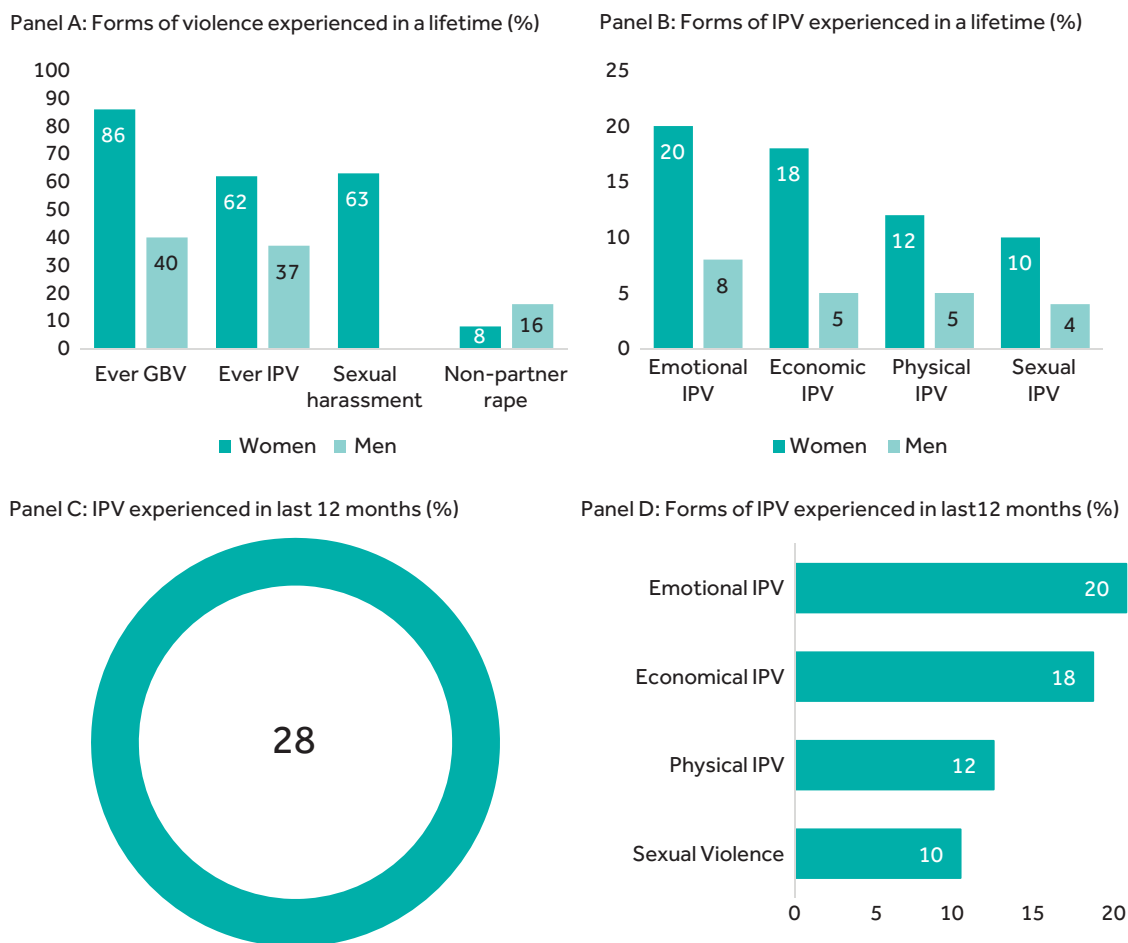
Source: Gender Links (2013).

Figure 2.4 Incidence of lifetime IPV by districts in Lesotho ('Indicators Study')
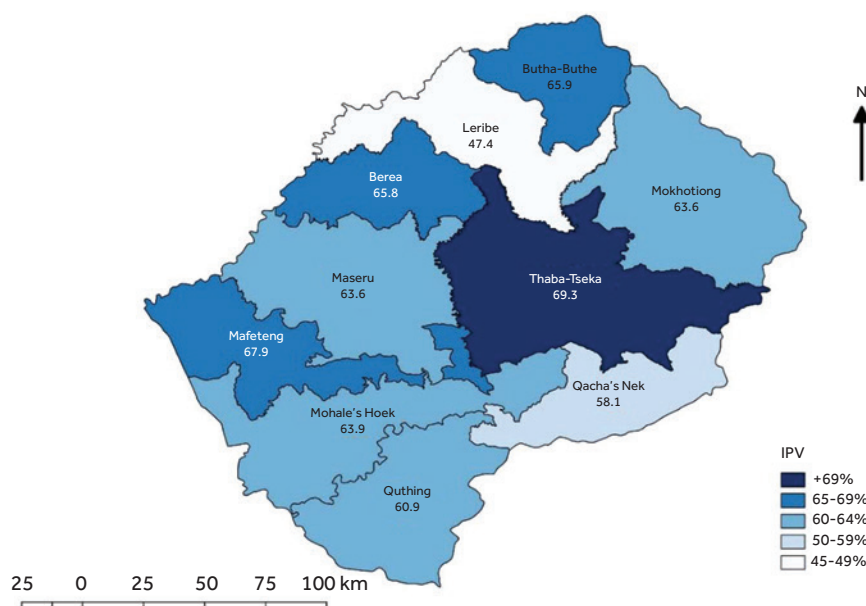
Gender Links. The indicators study was conducted for Lesotho in 2013, under the aegis of the Southern African Development Community (SADC) Protocol on Gender and Development's target to halve the levels of GBV by 2015. The study collected information from 1,987 women and 1,770 men. The study covered a wide range of pertinent issues such as extent of violence; drivers and patterns of GBV; effects; responses; support and prevention. Key findings of the study are reported below.

In spite of acknowledging serious under-reporting, the study came up with high rates of GBV and IPV. Some key findings include:

- High prevalence rates were found for both women and men. The prevalence rates were much higher for women compared to men. GBV against women was 86 per cent, while 40 per cent experienced physical IPV.

- Lifetime IPVW was 62 per cent.

- The prevalence of lifetime sexual violence was 24 per cent and non-partner rape was 8 per cent.

- 63 per cent of women experienced sexual harassment either at school, the workplace or public places.

- 18 per cent reported sustaining injuries and 68 per cent of them had been bedridden.

- 52 per cent went to a health facility with injuries.

- Almost 24 per cent of women took days off from work (Figure 2.3).

The study also reported significant variations in terms of IPV across districts in Lesotho. It varied from 47.4 per cent in Leribe to as high as 69.3 per cent in Thaba-Tseka (Figure 2.4).

'Desk Review and Initial Assessment of Violence Against Children in Lesotho' (UNICEF 2015)

This report was commissioned by the Ministry of Social Development (MOSD), with the assistance of the Department Children's Services and with support from the UN Children's Fund (UNICEF) Lesotho Country Office. The specific objectives included: (i) identify and consolidate existing data on the scope and nature of violence against children and on the existing conditions for prevention and response; (ii) assess weaknesses and gaps in the context of a 'systems approach to child protection'; and (iii) develop recommendations for the way forward.

The methodology was based on a desk review of existing and accessible documents and databases; interviews with key informants; focus group discussions with children; and focus group discussions with District Child Protection Teams (DCPTs) in three districts, namely Qacha's Neck, Botha-Bothe and Mohale's Hoek.

Key findings:

The study found that 6.8 per cent of all children reported being exposed to severe physical violence (about 1 in 15 children).	It reported that incidents of sexual violence against children were on the rise. Like in most countries, the perpetrators were often family members, close neighbours or other persons entrusted with providing care and support.
An important observation of this report was that domestic violence had severe implications for children, including injuries and causing children to run away from home, thus rendering them highly vulnerable.	The report found that: '*the issue of child marriage is a harmful traditional practice. This practice is often supported by the family and includes offering a daughter for dowry; marriage as a result of abduction; and forcing marriage as a resolution following rape – a practice often condoned by communities*'.

'Prevention of Violence Against Women and Girls: Stakeholder Network Analysis' (GIZ 2018)

The study prepared by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) intended to gain insights into key stakeholders involved in the fight against VAWG, their co-operation and capacity needs. The study conducted a comprehensive stakeholder and network analysis. The analysis consequently identified key stakeholders involved in preventing VAWG, examined their activities and forms of engagements, analysed the extent and quality of co-operation between stakeholders, and identified capacity needs for increased co-operation. The study did not gather information on the prevalence of VAWG. The study collected quantitative and qualitative data between January and July 2018, through an online survey, stakeholder workshops and exploratory interviews.

Key observations:

- In Lesotho, the number of actors engaged in the fight against VAWG was small. Civil society formed the largest sector group, followed closely by the public sector, as well as development partners and international non-governmental organisations (INGOs). A worrying finding was that the media, the private sector, and traditional and faith leaders played an insignificant role in this context.

- Most actors were focusing on IPV and non-partner sexual abuse. Most of their activities involved women and girls, as well as the authorities, but to a much lesser extent men and boys.

- Primary prevention initiatives included awareness and advocacy focused on the authorities, as well as community-based approaches.

- The actors in Lesotho formed a tight-knit network to connect and share information among themselves in the VAWG prevention arena, as well as to consult with each other on matters of joint concern.

- The study also pointed out that at the time of the research, there were no multistakeholder partnerships in the VAWG prevention network in Lesotho involving the government, civil society and private sector actors.

- It was also concluded that in order to deepen multisectoral co-ordination structures, organised and effective multistakeholder meetings were a core need. The actors were looking for such a forum.

'Maseru Evaluation: Sexual Violence Against Women in Lesotho'

The study was a collaboration between the MEASURE Evaluation Project, Tulane University, Sechaba Consultants and Lesotho CARE. The main goal of the study was to determine the nature and magnitude of sexual violence. Both qualitative and quantitative methods were used for data collection. The qualitative component consisted of six focus group discussions (FGDs) and 21 in-depth interviews. Meanwhile, the quantitative component was based on a random household survey conducted in selected neighbourhoods of Maputsoe and Maseru. In total 1,049 women were

Figure 2.5 Responses on experiencing sexual violence (%)
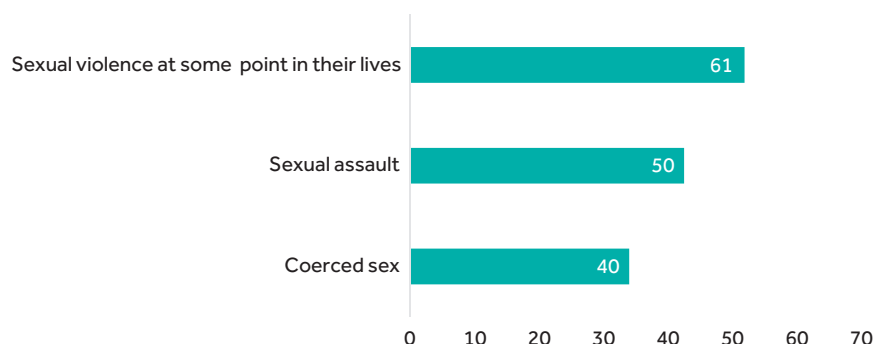
interviewed. Approximately equal numbers of survey respondents resided in programme areas (49%) and non-programme areas (51%).

Key findings:

Key findings on the extent of various types of sexual violence experienced by the respondents are reported in Figure 2.5 and below.

- The study found that sexual assault by someone a woman knew and sexual assault upon a sexually experienced woman were not considered to be rape. Thus, local definitions of rape underestimated the actual occurrence of sexual violence.

- Despite the underestimation due to definition, 61 per cent of the respondents had experienced sexual violence at some point in their lives. Around 40 per cent of the respondents reported experiencing some form of coerced sex and 50 per cent had experienced sexual assault. The proportion of the sample that reported being physically forced to have sexual intercourse at some point in their life was 22 per cent.

- Community members were typically not supportive of women who reported having been sexually assaulted and often blamed the woman for causing the assault.

- Most of the victims chose not to report an assault to the police to avoid harassment and accusatory questioning from the male officers.

'Lesotho: DFID Joint Programme Interventions in Protection/GBV' (UN RCO 2017)

The policy brief was to highlight the current status of interventions aimed at protection/GBV. The UNFPA

collaborated with DFID. Out of USD 6.23 million allocated to this programme, $0.44 million had been allocated as of 31 August 2017. Although 70,000 people were targeted, programme had already reached 100,529 people at the time of the study.

'National Action Plan 2011' (Government of the Kingdom of Lesotho 2011)

In an effort to reduce levels of GBV, the Lesotho government developed a National Action Plan to end GBV in 2011 and embarked on a pilot project to implement the plan in three districts. Since then, stakeholders have established GBV networks in 13 councils in these three districts.

These networks received training in development, supported by the UNFPA. The training included sessions on women's empowerment, preventing and responding to GBV, and the importance of gender equality. The GBV network project also trained members of the judiciary and the police, focusing on the proper handling of GBV cases and treatment of survivors. Councillors play multiple roles in their communities, so facilitators trained them on various topics as well.

Police stations also now have separate GBV report centres known as Child and Gender Units, where officers handle GBV cases confidentially and separately from other case files. In addition, trainers directed awareness-raising campaigns on GBV towards herds boys and men in rural communities. Radio programmes have been one of the most used channels to sensitise communities on GBV.

Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) 2011

The CEDAW is an international bill of rights for women. It identifies what constitutes discrimination

against women and accordingly sets an agenda to end all forms of discrimination against women.

The Lesotho CEDAW report of 2011 argued that there was a general lack of awareness of the convention and its Optional Protocol in Lesotho among law enforcement departments and among women residing in rural and remote locations. Following the report, an important recommendation was to take necessary actions to ensure adequate and effective dissemination of the convention, the Optional Protocol and the general recommendations of the CEDAW committee to all relevant stakeholders. The report also provided specific recommendations on VAW:

a. *Give high priority to the enactment of the draft Domestic Violence Bill; put in place comprehensive measures to prevent and address violence against women and girls, recognizing that such violence is a form of discrimination against women and constitutes a violation of their human rights under the Convention and a criminal offence; and ensure that women and girls who are victims of violence have access to immediate means of redress and protection and that perpetrators are prosecuted and punished, in accordance with the Committee's general recommendation No. 19;*

b. *Provide mandatory training for judges, prosecutors and the police, especially those who conduct mediation in cases of domestic violence, on the strict application of legal provisions dealing with violence against women; and train police officers on procedures to deal with women victims of violence;*

c. *Encourage women to report incidents of domestic and sexual violence, by de-stigmatizing victims and raising awareness about the criminal nature of such acts;*

d. *Provide adequate assistance and protection to women victims of violence, by strengthening the capacity of shelters and crisis centres, especially in rural and remote areas, and enhancing cooperation with NGOs providing shelter and rehabilitation to victims;*

e. *Collect statistical data on domestic and sexual violence disaggregated by sex, age, nationality and relationship between the victim and perpetrator.*

Among others, the report also highlighted some specific initiatives aimed at the elimination of VAW, for example: (i) formation of the Child and Gender Protection Unit (CGPU) within Lesotho Mounted Police Services (LMPS); and (ii) the Department of Gender-led radio programme covering VAW issues.

'SADC Regional Comprehensive Gender-Based Violence (GBV) Study' (Koetlisi 2018)

This study was commissioned by the SADC Secretariat with support from the Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) in May 2018. Acknowledging the high prevalence of GBV in the SADC region, this study was part of an initiative of the SADC Protocol on Gender and Development's target to halve levels of GBV by 2015. The study provides a compilation of laws and rules promoting gender equality, as well as abating VAWG.

Even though Lesotho does not have a law on GBV, there are three laws that may help prohibit most forms of VAWG. These are the: (i) Sexual Offences Act 2003; (ii) Anti-Trafficking in Persons Act of 2011; and (ii) Lesotho Penal Code 2010.

Section 3(3) of the **Sexual Offences Act of 2003** states that marriage or any form of relationship shall not be a defence against a charge under this act, when:

i. the complainant spouse or partner was sick;

ii. the accused spouse or partner had or was reasonably suspected to have a sexually transmissible disease or other life-threatening disease;

iii. violence or threats were used to engage in a sexual act;

iv. there is a judicial order of restraint in respect of the accused;

v. the spouses or partners are separated by an order of the court; and/or

vi. one of the spouses had deserted.

Section of 5 of the **Anti-Trafficking in Persons Act of 2011** stipulates that a person who traffics another person commits an act of trafficking and is liable, on conviction, to a fine of M1,000 000,00 or imprisonment to a period of 25 years.

Section 30 of the **Penal Code Act 2010** provides that a spouse who intentionally applies unlawful force to the person of another commits an offence of assault.

According to the **Marriage Act of 1974**, the minimum age of marriage in Lesotho is 21 years. However, Section 27 of the same law allows for boys to marry at 18 and girls to marry at 16 with the written permission from the minister. The Children Protection and Welfare Act (CPWA) was under review at the time of the present report and the expectation was that it would include the minimum age of marriage to be 18 years.

3. VAWG Key Facts: Lesotho

Some key facts on VAWG in Lesotho are presented here. They are excerpted from the review of literature and statistics, an expert group consultation and the primary survey.

3.1 Administrative data

Governments, as well as non-government agencies, are usually responsible for addressing violence against women and girls (VAWG) in a country. Administrative records or data thus constitute a highly important source of information for estimating the cost of violence. Lesotho is no exception. The following agencies listed in Table 3.1 were found to be involved in addressing VAWG in Lesotho.

Key observations:

- Data/statistics were not compiled properly to allow cases related to VAWG to be identified.

- Information collection and generation processes were not digitalised.

- Costs for various services extended by the government were not readily available.

- The proportion of agency staff and resources devoted to addressing VAWG was not readily available.

- Loss of learning time at primary and secondary schools could not be collected due to lack of tools and non-application of standard procedures.

- Addressing VAWG in the workplace did not yet constitute an activity by the relevant agency (i.e. Ministry of Labour and Employment) in Lesotho.

- Under-reporting of actual events (victim surveys).

Legislation for VAWG cases

1. Gender and Development Policy 2018
2. Sexual Offences Act 2003
3. Legal Capacity of Married Persons Act 2006
4. Penal Code 2010
5. Children's Protection and Welfare Act 2010
6. Anti-trafficking in Persons Act 2011
7. Land Act 2010
8. Financial Institution Act 2012

3.2 Expert group consultation

As part of information collection, as well for validation, an expert group consultation was arranged during the second mission (April 2019). Among others, the expert group was asked to provide its perceptions of current VAWG prevalence rates on specific VAWG indicators, considering the extent of under-reporting; as well as the gap between the indicators study (2013) and the year 2017 chosen for the costing exercise. The responses, which are provided in Table 3.2, suggest significant increases over the 2013 rates.

3.3 Primary survey

Estimating the cost of VAWG is data demanding. In most countries, the required data are not readily available; Lesotho is no exception in this respect. Various approaches have been attempted to gather new information, as well as to cover the obvious data gaps. Reviews of available administrative and survey data identified several gaps that needed to be filled from different sources. To overcome the issue of the outdated VAWG prevalence rate (2013), all relevant stakeholders, including the Department of Gender, favoured conducting a new small primary data-collection survey. The survey was conducted by Sechaba Consultants, who were commissioned by the Commonwealth Secretariat, with support for the project between June and July 2019. Key findings of the primary survey are provided below.

Table 3.1 Lesotho agencies addressing VAWG

Agency	Support service areas
A. Government agency	
1. Ministry of Gender and Youth, Sport and Recreation	Policy and strategy formulation; awareness and training; shelter
2. The judiciary	Law and justice; and protection
3. Ministry of Social Development	Protection and counselling
4. The police	Prevention and protection
5. Ministry of Health	Treatment and counselling
6. Ministry of Education	Education, monitoring and counselling
B. Non-governmental organisations/ civil society organisations	Shelter, awareness and counselling

Sampling

A sample of 800 females aged between 15 and 64 years was the target population for the survey. In each of the four identified districts, 200 women and girls aged 15–64 years were sampled. A two-staged sampling was used, and stratified random sampling was used to gather data. The primary survey was completed in 30 days.

In the first stage, four districts were selected based on specified criterion, that is:

Table 3.2 Perception on GBV prevalence rate (expert group consultation)

Respondent	Emotional IPV	Physical IPV	Economic IPV	Sexual IPV
1	60	40	30	20
2	60	80	40	90
3	40	8	25	5
4	25	35	19	20
5	25	30	20	15
6	50	60	40	70
7	35	25	27	35
8	30	22	28	20
9	30	20	10	25
10	60	45	60	40
11	30	18	30	50
12	35	20	20	32
13	40	20	50	60
14	25	35	26	50
15	28	17	35	20
16	25	20	27	29
17	70	90	70	90
Mean	**40**	**34**	**33**	**40**
Mode	**25**	**20**	**30**	**20**
2013 rates (mean)	20	12	18	10

Source: Second in-country mission, April 2019.

Figure 3.1 Survey areas with sampling unit (primary survey)

Sample size of the survey areas
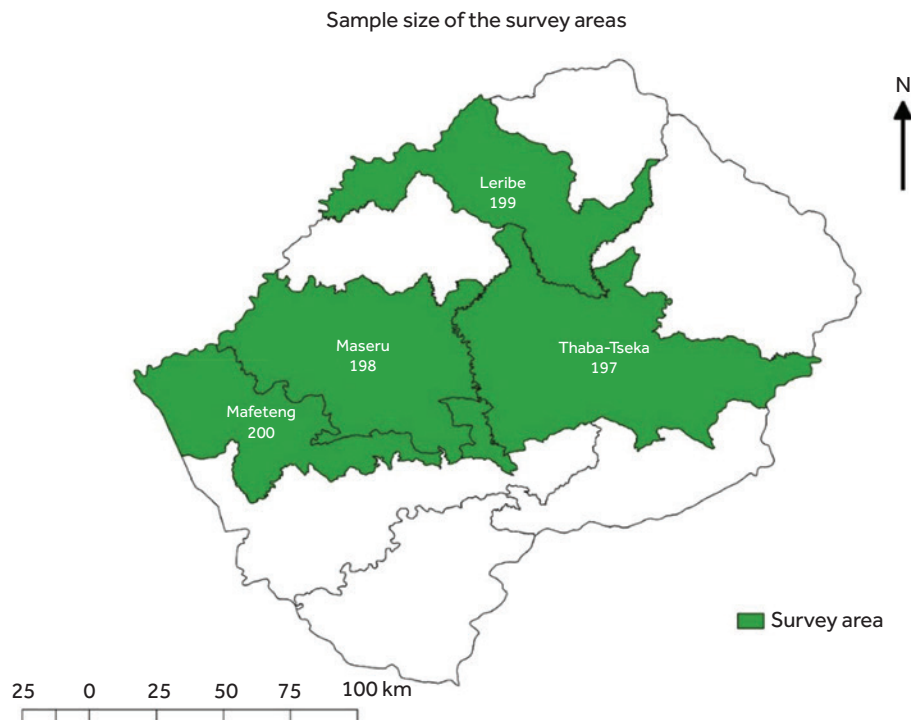
- location (urban and rural);

- remoteness and access of to various services (police, health and social services etc.);

- known high prevalence rates; and

- known relatively low prevalence rates.

The study was conducted in the four districts of Leribe, Maseru, Mafeteng and Thaba-Tseka, based on the criteria above. The 2013 Gender Links Indicator Study was used to guide the selection of districts using the IPV prevalence rates. Figure 3.1 also shows the number of completed interviews per district.

In the second stage, random sampling was used to identify households that would be visited to administer the structured questionnaire to women and girls aged between 15 and 64 years. The survey participants were identified using the Kish Selection Grid.

Key characteristics of the respondents

- *Age – mean: 35.3; median: 32; minimum: 19; maximum: 63*

- *Employment – employed: 7.1 per cent; self-employed: 7.8 per cent; student: 11 per cent; unemployed: 33 per cent; housewife: 43 per cent*

- *Education: No education: 2.6 per cent; primary: 42.7 per cent; secondary: 42.2 per cent; tertiary and other: 7.5 per cent*

- *Have children below age 16 – No: 37%; Yes: 63 per cent*

- *Percentage of survivors who sought help – 62.4 per cent*

Frequency and forms of violence

A very important aspect of VAWG captured through the primary survey was the high-frequency repeat victimisation that was not reported by the national GBV baseline survey (2013). According to the primary survey, 75 per cent of respondents experienced violence more than once during the 12-month time period. This was a key finding. Forms of violence were in line with findings of the national baseline survey, with emotional violence the most prominent (Figure 3.2).

Gravity of injury

Gravity of injuries has a serious impact on VAWG survivors – both in terms of their physical and psychological health; it also has cost implications in terms of treatment and number of temporary incapacity days. Usually injuries are categorised

Figure 3.2 Frequency and forms of violence (primary survey)

Panel A: Frequency of violence

Panel B: Forms of violence (% of occurrences)

■ Once ■ 2 imes ■ 3 times ■ 4 times ■ More than 4 times
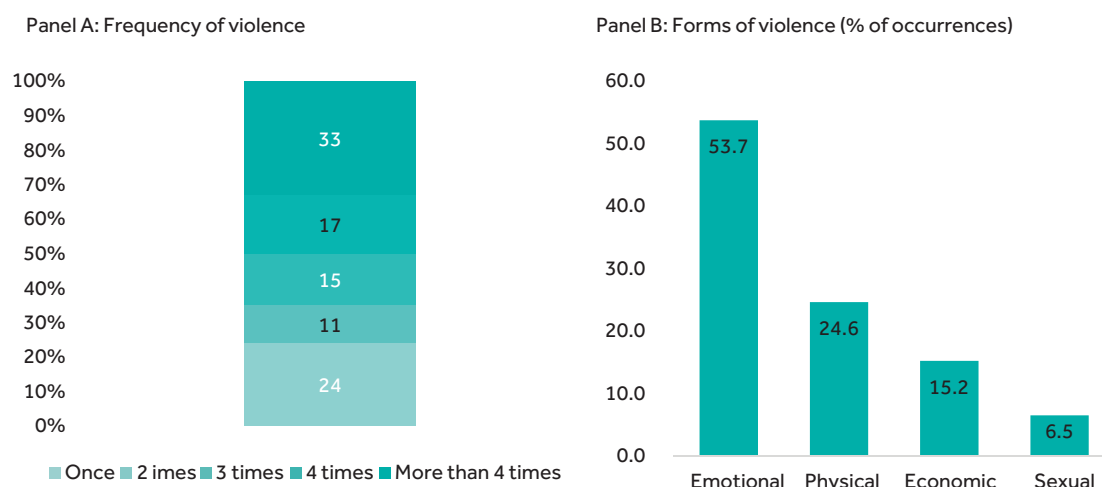
Source: Primary survey 2019.

Figure 3.3 Gravity of injury and days off from work (primary survey)

Panel A: Gravity of injuries (%)

Panel B: Unable to attend to work (%)
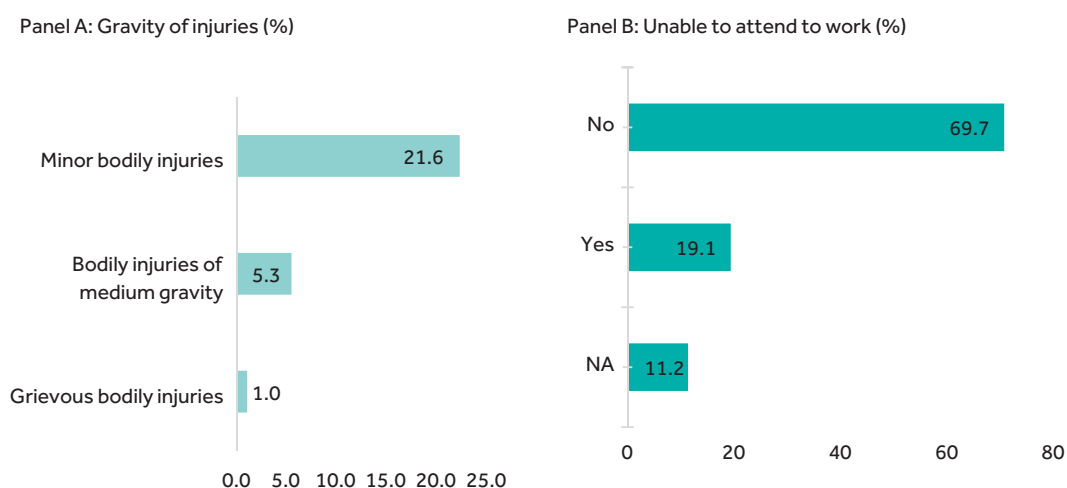
Source: Primary survey (2019).

into three types, depending on their seriousness and treatment required: (i) minor bodily injuries; (ii) bodily injuries of medium gravity; and (iii) grievous bodily injuries. Twenty-one per cent (21.6%) of respondents experienced minor injuries. For bodily injuries of medium gravity and grievous bodily injuries, the respective figures were 5.3 and only 1 per cent. This was important information for the costing exercise. Around 19 per cent (19.1%) of respondents took days off from work due to injuries (Figure 3.3).

Bedridden due to injury

An inevitable outcome of grievous injuries is either hospitalisation or being bedridden at home. Around 15 per cent (14.6%) of respondents had to spend a night in hospital due to the gravity of injuries and 13.5 per cent were bedridden at home[1] (Figure 3.4).

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1 Another parameter was the average number of days absent from work. According to the primary survey, this was around 8 days.

Figure 3.4   Bedridden (primary survey)

Panel A: Hospitalised (%)

85.4

14.6

■ Yes ■ No

Panel B: Bedridden at home (%)

86.5

13.5

■ Yes ■ No
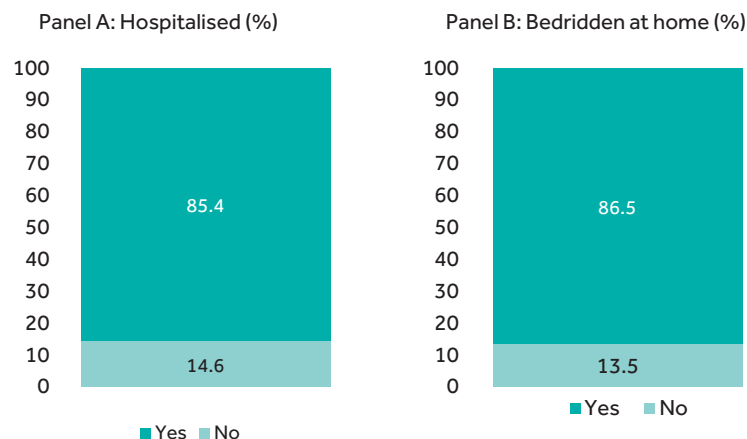
Source: Primary survey (2019).

Household work

Violence usually disrupted household activities that were regularly performed by the survivors. About 30 per cent (29.2%) of respondents said domestic violence had disrupted their household work. The extent of disruption of household work is also captured (Figure 3.5). Among the respondents, 45 per cent (45%) stated that the average number of days of disruption of household work was seven (7) days. On average, the hourly disruption rate in a typical day was six (6) hours.

Personal expenses incurred

An important element of the economic cost of VAWG is the out-of-pocket expenses incurred

by the victims and their families. The main cost items that victims or families of victims of violence incurred were for transportation, the ambulance call, diagnostic examination, in-patient treatments, purchase of lost/damaged personal property,legal advice and other costs (Table 3.3).

Violence experienced at workplaces and school (primary survey)

Figure 3.6 captures the extent of violence experienced at workplaces and school. Almost 32 per cent experienced violence at their workplace, while almost of 44 per cent experienced violence at their school (Figure3.6).

Figure 3.5   Disruption of household work (primary survey)

Panel B: Extent of disruption (days)

Panel A: Disrupted household work (%)

29.2

70.8

■ Yes ■ No

45

25

17

13

5 Days   7 Days   15 Days   30 Days
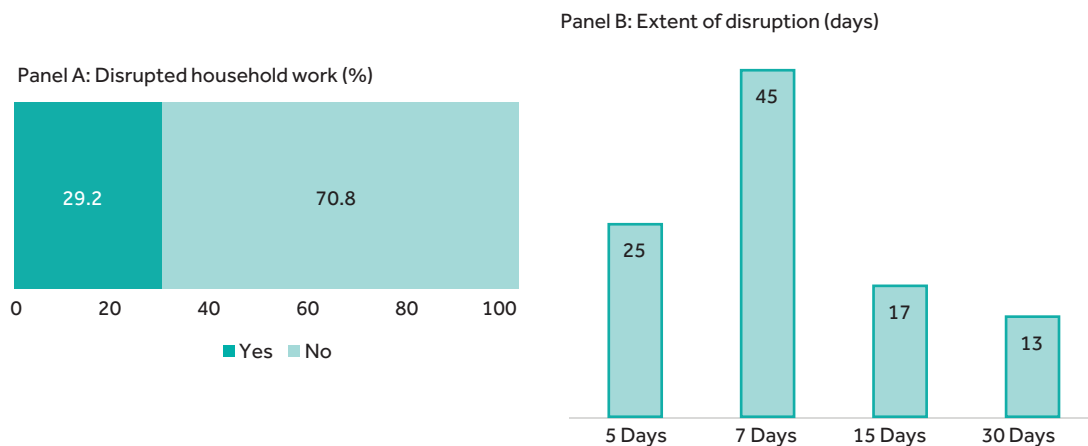
Source: Primary survey (2019).

Table 3.3 Personal expenses (primary survey)

Personal expenses	Percentage of respondents	Unit cost (maloti)
1. Personal expenses for transportation	9.0	100
2. Personal expenses for the ambulance call, test etc.	28.0	121
3. Personal expenses for diagnostic treatment and medicine	25.0	138
4. Personal expenses for inpatient services	23.0	117
5. Personal expenses for legal services	31.0	500
6. Cost of property damage	27.0	360
7. Personal expenses for other costs	28.0	372

Source: Primary survey (2019).

Figure 3.6 Violence experienced at workplaces and school (primary survey)

Panel A: Violence experienced at workplace (%)

Panel B: Violence experienced at school (%)
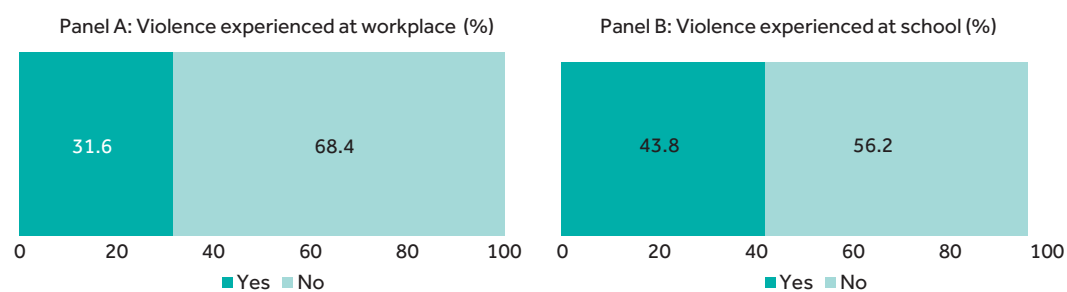
Source: Primary survey.

4. Methodology

In order to capture structural interlinkages within the real economy, and thus calculate the full economic cost of VAWG, the methodology applied in the present exercise includes three types of costs, namely: (i) directly measurable costs; (ii) indirect costs (costs that are difficult to measure directly); and (iii) induced costs (costs leading to further linkages and that will have secondary effects).

Direct costs include the cost of medical treatment for various types of physical and mental abuse – doctors/hospital bills for physical injuries and bills for psychosocial care; costs for involvement of the law/police; loss of income due to absence from work etc. **Indirect costs** measure reduced gross domestic product (GDP) as a result of linkages between the income generation process and reduced effective demand due to loss of female workdays. Loss of female workdays translates into loss of income and hence reduced private consumption. This reduction in private consumption expenditure in turn leads to a decline in effective demand and subsequently GDP, because of their inter-dependence in the circular flow of income generation. The third type of costs, **induced costs**, represents a further reduction (i.e. second round effects) in GDP due to loss of demand for the products (unaffected in the first round) which are inter-dependent with the products affected indirectly. For instance, the tourism sector may not be affected in the first round as it is generally not an essential type of regular expenditure. But due to the inter-dependence of the tourism sector with the rest of the economy, it would be impacted in the second round as the incomes of unaffected households would likely decline due to the slow-down of economic activities affected in the first round.

The utilised costing module consists of four building blocks. There are three building blocks for the direct cost component (shown in red in Figure 4.1) and one building block for the indirect/ economy-wide cost component (shown in blue).

The main features of the direct cost component – with its three building blocks – are discussed below. Section 4.3 outlines the indirect/ economy-wide cost component.

4.1 Structure of the model framework

Three types of cost approaches (1)

The estimated costs are based on three types of approaches: (i) the unit cost approach; (ii) the proportional operating cost approach; and (iii) the total operational cost. The 'unit cost' approach estimates the cost of a certain service package provided to a survivor in a certain case (e.g. per day hospital cost or medical service package for a survivor with grievous injuries). The 'proportional operating cost' approach is based on identifying the share of survivors in the total number of service recipients (e.g. 30 per cent of the total social services budget spent for survivors). The 'total operational cost' approach is applicable to 24 hour per day/7 days per week services (such as a telephone hotline for survivors of violence).

Three categories of costs (2)

The estimates are produced for the following potential three categories of costs:

i.   Cost of services provided in response to violence and assistance for survivors. This category may include: the healthcare sector, law enforcement and the system of justice, penitentiary institutions for abusers, social and specialised services for women affected by violence etc.

ii.   Personal material losses and cash expenses of survivors due to violence.

iii. Lost economic output due to irreversible population losses, such as premature death of VAWG victims, temporary and permanent disability due to gender-based violence, and reduced work productivity of survivors – leading to loss in output or income.

Costs estimated at two levels (3)

An important observation is the high latency (under-reporting) of VAWG according to official statistics (UNFPA and DFID 2017). Reasons include fear of not being believed, being stigmatised or blamed for abuse, as well as impunity and fear of retaliation by the abuser.

Figure 4.1 Costing module comprises four building blocks
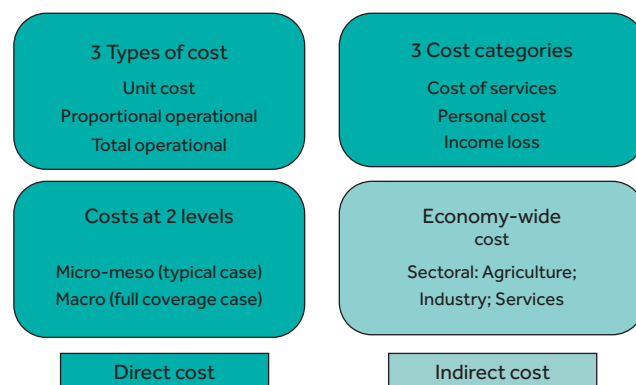
3 Types of cost	3 Cost categories
Unit cost	Cost of services
Proportional operational	Personal cost
Total operational	Income loss

Costs at 2 levels	Economy-wide cost
Micro-meso (typical case)	Sectoral: Agriculture;
Macro (full coverage case)	Industry; Services

| Direct cost | Indirect cost |

Thus, estimates based only on official statistics may produce a huge underestimation of the economic cost of violence (since the official data misrepresents the real magnitude of violence against women). Accordingly, a sensible approach may include cost being estimated at two levels or using two scenarios:

- **First,** cost estimation based on official or survey data (in other words, estimates based on micro- and meso-level data). According to the literature, such economic cost estimates are said to be based on a 'typical' scenario using the official police statistics on offenses.

- **Second,** a so-called 'full coverage' scenario – that is, a cost estimate that is based on a simulation model using the violence prevalence rates and features of survivors contained in population-based surveys. This may also be referred to as a macro-level cost estimate.

4.2 Software

The model costing framework developed by the authors of this report has been created in an MS Excel environment to enable transparency, accessibility and transferability; and it was tested with hypothetical data.

It is a generalised framework intended to be populated with country data. The model is designed to provide two types of costs: (i) typical case costs based on micro-/ meso-level information; and (ii) full coverage case costs based on a macro-level simulation using shares of micro/meso level and age cohort population data.

The logical flow of the model is shown Figure 4.2.

4.3 Economy-wide/indirect cost

To assess the indirect cost of VAWG, the researchers use a simple economy-wide framework. Consider an economy with earnings and spending. We earn our income from various types of activities (e.g. agriculture, manufacturing, mining, construction and services), by investing our financial resources (or capital), or through participation in the labour market (capital and labour are known as 'factors of production'). The vast majority of what we earn is spent (or consumed) on various types of commodities and services. Spending – or consumption – generates demand for commodities and services, which in turn stimulates supply of various activities where these are produced. Stimulated supply employs labour and capital and thus creates income for spending again – and the loop continues.

One outcome of the direct cost of VAWG is the loss of workdays leading to loss of income. Income loss leads to a reduction in private consumption expenditure (spending) with subsequent negative impacts on demand for and supply of goods and services. As production of goods and services depend on purchases of other goods and services, as well as factors of production, the loss of female workdays (which is a direct impact of VAWG) may indirectly lead to further loss of income due to this interdependence.

To capture the indirect impacts of VAWG, the researchers use an economy-wide database or model. The two most widely used economy-wide data sets are: the input–output matrix (IOM[1]) and

1   IOM usually captures the production structure of an economy for a particular year, describing production technologies and ensuring equality of supply to demand for all sectors of activities classified in that economy.

Figure 4.2 Schematic specification of the direct cost component
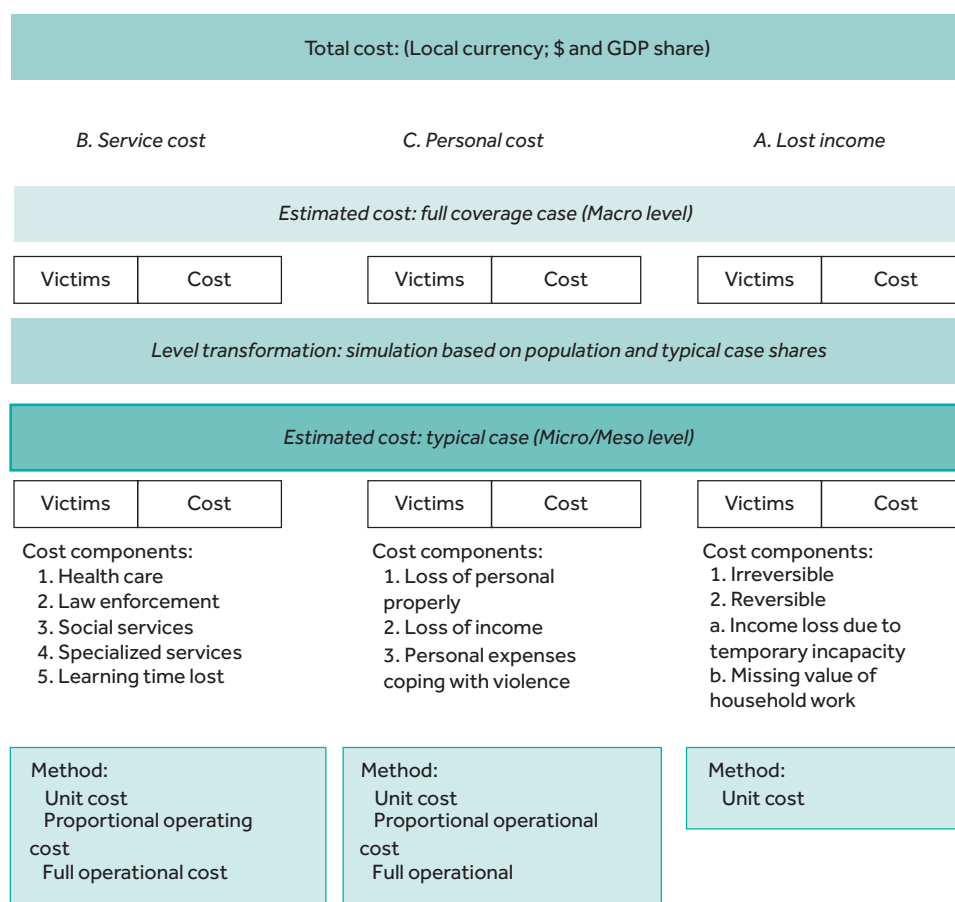
Source: Author's Representation.

the social accounting matrix (SAM[2]). The economy-wide data sets are then converted into a multiplier framework to capture the economy-wide indirect cost of VAWG.

A hypothetical example, with only three broad economic sectors (agriculture, industry, services; in reality number of sectors would be much larger) is shown in Figure 4.3.

As can be seen, income loss derived in the direct cost approach leads to a reduction in private consumption expenditure. For a three-sector economy, private consumption loss is recorded for services as being 1.5 per cent and for

agriculture as being 4 per cent. The consumption expenditure in the industry sector is considered unaffected to capture the interdependence of the multiplier model.

These reduced consumptions are then incorporated as exogenous shocks into the multiplier model (i.e. in this case, a 3 x 3 multiplier model) to assess the indirect and induced cost of violence. The total indirect cost is found to be 7.8 per cent (output loss to agriculture and services, 5 + 2.8), while the total induced cost is 4.3 per cent (output loss to industry).

This is a highly data demanding exercise. Unlike the other economic statistics, data required for numerical specifications of the model are not readily available. The project consequently made a heavy investment in data collection.

Three missions were carried out (i.e. inception and data-collection missions), while a thorough review of the literature and statistics was also

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2   SAM is an extension of IOM incorporating other important agents such as factors of production (i.e. labour and capital factors) and institutions (i.e. households; government; corporations etc.). A special feature of the SAM is that it shows the income generation process (i.e. the income generation process by factors of production such as labour factor or capital factor); distribution of income to various institutions such as household; government; corporation etc.

Figure 4.3 Hypothetical example of multiplier framework
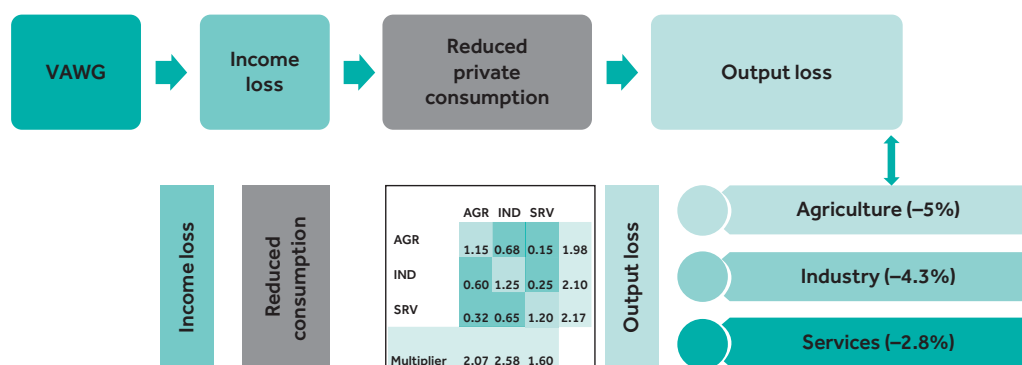
	AGR	IND	SRV	
AGR	1.15	0.68	0.15	1.98
IND	0.60	1.25	0.25	2.10
SRV	0.32	0.65	1.20	2.17
Multiplier	2.07	2.58	1.60	

VAWG → Income loss → Reduced private consumption → Output loss

Income loss — Reduced consumption — Output loss

Agriculture (–5%)
Industry (–4.3%)
Services (–2.8%)

conducted. The researchers met with more than 75 stakeholders. One exclusive expert group consultation involving 25 experts was also conducted to gather data, as well as to cover gaps in information set. Furthermore, a primary survey was also conducted to gather recent information on the prevalence of VAWG, as well as some important data on the economic aspects of VAWG – which are usually not covered in traditional VAWG surveys.

The primary survey was conducted in four districts (i.e. Leribe, Maseru, Mafeteng and Thaba-Tseka) covering 800 females aged between 15 and 64 years. In each of the four identified districts, 200 women and girls aged 15–64 years were sampled. A two-staged sampling was carried out, with stratified random sampling used in the second stage to gather the data.

4.4 Country implementation strategy

Country-level implementation requires the steps outlined below.

A. *The following information allows estimation of the micro/meso level or 'typical' case:*

1. Collect administrative data and available survey data on VAWG (i.e. micro/meso-level data) to generate prevalence rates for difference types of violence (e.g. minor, medium gravity and grievous types etc.).

2. Collect administrative financial information to calculate the 'unit cost' for various services (e.g. per day hospitalisation cost; outpatient fee per visit etc.) and cost categories (e.g. minimum wage; per capita income of employed person; hourly wages of police personnel, social service officials, judges etc.).

3. Get intervention parameters for different services (e.g. number of hours spent per case by the police, judiciary, social services and family welfare etc.) for cases under different types of violence.

4. Collect detailed budget information for ministries and agencies involved in preventing VAWG. This information allows the researcher to determine the amount of public funds allocated for VAWG management and prevention.

5. Arrange consultation meetings with local experts (i.e. in-country experts) to validate findings based on administrative and survey data (i.e. micro/meso-level data).

6. Organise a primary survey to gather recent information to update VAWG prevalence rates. The primary survey also helps the researcher get information on personal costs incurred; duration of treatment; loss of working days etc.

B. *The following step is needed for the macro-level estimation or 'full-coverage' case:*

7. Gather age cohort gender-segregated population data to operationalise macro-level cost estimation. Information of age cohort population data are then used alongside the information on three types of costs (i.e. unit cost, proportional operational cost, full operational cost); prevalence rates; and other relevant shares to estimate the macro-level cost or cost under the 'full coverage' scenario.[3]

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3   Some literatures have also labelled the 'full-coverage' case as the 'best' case scenario.

C. Economy-wide estimation requires the following strategies:

8. Estimated output loss or income loss information is then used to examine the economy-wide indirect and induced costs of VAWG. If a consistent macroeconomic data set (i.e. IOM or SAM) is available for a recent year, the economy-wide model is specified by designating some of accounts of IOM/SAM as 'endogenous' accounts (or analogous to dependent variables) and 'exogenous' accounts (or analogous to independent variables). Endogenous[4] accounts include activities; factors of production – labour and capital; and households. Exogenous[5] accounts are composed of policy variables such as government expenditure; investment; exports etc.

9. If a recent macroeconomic data set is not available, the data set may be updated to a recent year using sectoral economic information (such as value-added or GDP, imports, exports, consumption, public expenditure, investment etc.). In this case, the updated macroeconomic data set is converted into an economy-wide model.

10. Carry out a simulation exercise with the economy-wide model to assess the indirect and induced cost of violence against women (see Annex 2 for more information).[6]

4.5 Overcoming data gaps

The costing module should ideally be based on country data or data available from international agencies such as the UN, World Bank and multilateral development banks etc. However, as mentioned above, obtaining robust estimates on the cost of VAWG is subject to significant data limitations and gaps in all countries in the world (Duvvury et al. 2013). Where data/information are not readily available, an indirect method can be adopted to derive such data. For instance, unit value (or return to employment) can be derived from information on earnings of female workers and number of person days or person hours worked. In extreme cases, some 'place holder' values may be obtained from similar studies for preliminary estimates with the intention that the 'place holder' values be replaced with country-level data at a later time. Moreover, in some cases, surveys may need to be conducted to fill the data/information gaps. Digital records need to be identified and assessed and, in some cases, paper records will have to be digitised.

Another challenge will be to collect/gather IOM or SAM data to carry out indirect and induced cost estimations. Ideally, the researcher needs to use a SAM for the indirect and induced cost estimations. Even when a SAM is not readily available, it may be possible to develop a SAM using an IOM (as was done for Lesotho). An important source of IOMs for a large number of countries is the Global Trade Analysis Project (GTAP) database.[7]

In order to ensure as high a level of accuracy as possible, once the modelling is complete, meetings with administrative agencies, expert groups and survivors of VAWG will need to be arranged to discuss the findings – including under-reporting – for improvement and consolidation.

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4   They usually include an activity account, factor account, household account etc.
5   Private and public consumption, exports and investment, pure transfers between institutions (e.g. from government to households) and foreign remittances are generally included to define the exogenous account.
6   It transpired that this method had never before been attempted in gender studies and studies to estimate the economic cost of violence against women.

7   GTAP database, available at: https://www.gtap.agecon.purdue.edu/.

5. Approaches to Estimate Direct Cost ('Typical' Case)

5.1 Health services

It is universally acknowledged that the most important loss to a survivor of VAWG is the health loss. Health of an individual is defined by the World Health Organization (WHO 1948)[1] as 'a state of complete physical, mental and social well-being and not merely the absence of diseases or infirmity'. Following this, in 2013 WHO proposes three groups of effects to measure the health losses due to VAW. These are:

- Physical injuries (traumas)

- Psychological traumas and stress disorders

- Fear and effect of controlling behaviour

The cost of the first group of effects is usually estimated and recorded, since required data/parameters are available (even if not in the best possible format and coverage). Although in some advanced countries, costs for the second group have been estimated due to the availability of administrative medical records, in most countries measurement of psychological trauma/stress is not attempted. Costs for the third group are difficult to gauge, as they are generally associated with postponed effects, hence measurement is not attempted due to lack of clarity on methodology as well as lack of data.

Administrative data (i.e. medical records) is the main source for measuring the cost of healthcare services. Reviews of administrative data in order to estimate costs due to VAW have been complicated by the following two identification complexities:

- non-availability of medical statistics that identify health losses due to VAWG[2] or by gender; and

- non-availability of data that identify the scope of the total health sector budget for healthcare-related services received by violence survivors.[3]

Given these identification problems, the following approaches were considered to estimate costs for the first group of effects:

- physical (bodily) injuries and sexual violence were included in the estimation;

- data related to the above categories were obtained from the Health Statistics Department in Lesotho;

- the 'unit cost' approach – which provides a minimum of doctors/staff time, fees, diagnostic tests and medical procedures for each 'typical' situation – was adopted; and

- We utilised data on assault and violence; and rape and sexual assault data on female survivors who visited a medical facility for treatment – this data was provided by the Ministry of Health (Table 5.1).

Table 5.1 Number of visits by types of assaults

Data	Numbers (female)
1. Assault and violence	1,334
2. Rape and sexual assault	429
Total assault	1,763

Source: Ministry of Health.

Unit costs of various services estimated for 2017 were also obtained from Ministry of Health – see Table 5.2.

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1   Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19–22 June 1946; signed on 22 July 1946 by the representatives of 61 states (Official Records of the World Health Organization, no.2, p.100) and entered into force on 7 April 1948.

2   The current system of documentation of injuries does not follow compulsory registration of the cause of injuries or cause of discomfort, thereby making it impossible to identify cases of domestic or sexual violence.

3   That is, the expenses of medical institutions are financed via line-item budgeting, leading to non-identification of the actual cost of specific services. For instance, in Lesotho (and perhaps in other countries), the significant component of the medical budget is allocated for wages and salaries (i.e. 35% of the total healthcare budget). Under such a financing system, it is almost impossible to assess the actual costs of specific services utilised by patients.

Table 5.2 Unit costs by types of services (healthcare services)

Health service	Unit cost (maloti, M)	
	2017	2018
Medical wards	M15.00	M15.00
Surgical wards	M15.00	M15.00
Maternity wards	M15.00	M15.00
Paediatrics	M15.00	M15.00
Wards ICU	M15.00	M15.00
Accident and Emergency	M15.00	M15.00
Ambulance	M50.00	M50.00
CT scanner	M300.00	M300.00
Echography	M50.00	M50.00
MRI	M600.00	M600.00
Theatre – General Surgery	M15.00	M15.00
Theatre – Orthopaedic	M15.00	M15.00
Theatre – Ophthalmology	M15.00	M15.00
Theatre – Gynaecology	M15.00	M15.00
Theatre – Endoscopy	M15.00	M15.00
Theatre – ENT	M15.00	M15.00
Immediate operations	M40.00	M40.00

Source: Ministry of Health.
ENT = Ear, Nose and Throat Surgery.

Out-of-pocket health expenses made up about of 25 per cent of public health expenditure in Lesotho in 2017 (UNICEF and World Bank, 2017). In the case of VAWG, victims may prefer to visit a private facility to avoid law enforcement agencies and for privacy. Experiences suggest that the costs of private health services are higher than those of government health services. We also collected data from a few private facilities for comparison. These are reported in Table 5.3. It is clear that the costs of private health services are significantly higher than those of public health services.

A recent report entitled the *Lesotho Public Health Sector Expenditure Review*, jointly prepared by UNICEF and the World Bank (2017) provided different (and somewhat higher) unit costs for inpatient and outpatient departments (OPD). According to the report, the unit cost for inpatient was 100 maloti[4] and the unit cost of outpatient was 174[5] maloti (Table 5.4).

The following specification was applied to estimate the healthcare costs of physical and sexual violence for each service or category:

$$\textbf{\textit{Healthcare Cost}}_i = (\textit{Data}_i \times \textit{Parameter}_j) \times \textit{Unit Cost}_i$$

Where, $i = 1..4$ (1 = visits to medical facilities, 2 = emergency services, 3 = specialist services and 4 = hospitalisation), while $j = 1..2$ (1 = prevalence rate for physical injuries and 2 = prevalence rate for sexual violence).

The specifications and estimated costs are provided in the Table 5.5.

5.2 Law enforcement and the judiciary

Data on the judiciary came from two courts — (i) the Magistrate Court; and (ii) the Children's Court. The data as provided are shown in the Table 5.6. However, these are total cases registered with

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4   The unit cost was estimated using the weighted average of two cost items, that is (i) total spend per inpatient; and (ii) total Human Resource spend per inpatient under three types of medical facilities — government, Christian Health Association of Lesotho (CHAL) and Queen Mamohato Memorial Hospital (QMMH).

5   The OPD (outpatient department) unit cost was estimated using the weighted average of total spend per OPD patient

under two types of medical facilities — government and CHAL. OPD cost was, however, higher than the inpatient cost — a counterintuitive outcome. The reason behind the higher OPD cost was due to the inclusion of dental costs in it. Not enough breakdown was reported, such that dental costs could not be separated from the calculation of OPD cost.

Table 5.3 Unit costs (in maloti, M) by types of services in private health facilities (healthcare services)

Services description	Maseru Private Hospital	Willis Private Hospital	Bulane's Surgery
Consultation	450.00 to 500.00	300.00 normal hours	300.00 below 10 years
		350.00 after hours	400.00 above 10 years
Hospital stay	950.00 per day	400.00	
Maternity: Normal	5,530.00	5,000.00	2,500.00
Caesarean section	9,010.00	7,500.00	4,000.00
Twins			5,500.00
Anaesthesia	1,000.00		
Circumcision		1200.00	
Evacuation		2000.00	2500.00
Doctor's charges	300.00 to 500.00		
CT Scanner	3000.00 to 4000.00		600.00
MRI			900.00
X Ray		350.00	50.00 to 100.00
Ultra-Scans		350.00	450.00
Suturing	From 250.00 to 2,000.00		500.00 to 1,000.00
Broken leg, below knee			500.00
above knee			800.00
Oxygen therapy	7.75 per minute		
Ambulance - local		800.00	
Leribe		2,300.00	
Mapoteng		1,300.00	
Bloemfotein		4,500.00	

these two courts. It was reported by the Magistrate Court that out of a total 11,200 cases 3,700 were related to GBV. But there was no such information provided by the Children's Court. This information needed to be converted into GBV data for the costing purpose. The following steps were adopted for this conversion:

1. Information on sexual harassment was recorded by two courts – (i) the Magistrate Court and (ii) the Children's Court. We considered the sexual harassment cases reported in both courts to be GBV data.

2. We used the shares of protections, probations, evictions, prison with respect to totals of the respective courts (i.e. 11,200 and 7,136) to derive the GBV shares for types of convictions. These were respectively δ and β.

3. We derive the total GBV cases for cases from the two courts. For the Magistrate Court, the total was 3,700. However, such a total was not provided by the Children's Court. In this case, we used the physical violence prevalence rate (24.6 per cent) with the number of complaint cases (i.e. 7,136) to generate a GBV total of 1,755 (7136 × 0.246).

4. For GBV cases from the Magistrate Court, the derived shares (i.e. δ) by different types of convictions were multiplied with the GVB total (i.e. 3,700) to generate a vector of GBV items (j). In Table 5.6, these are shown in column GBV_m (i.e. GBV recorded in the Magistrate Court). A similar approach was used for GBV cases from the Children's Court. The derived values are captured in column GBV_c (i.e. GBV recorded in the Children's court).

Table 5.4 Parameters and unit cost used in cost estimation for health

Data and parameter	Value	Source
Parameter		
Share of emergency services	0.280	Primary survey
Specialist	0.063	Primary survey
Hospitalisation	0.145	Primary survey
Sexual violence: traumatic case	0.100	Assumed
Unit cost (maloti, M):		
Visit to medical facilities	174	UNICEF (2017)
Emergency services	100	UNICEF (2017)
Specialist services	300	Private hospital
Hospitalisation	100	UNICEF (2017)
Sexual violence: case	100	UNICEF (2017)
Sexual violence: psychological case	1,000	Same as traumatic
Sexual violence: traumatic case	1,000	See below

Note: The cost of treating a traumatic case of sexual violence is ten times higher than that of the sexual violence case. Following WHO (2013), the cost for a traumatic case includes psychological support, emergency contraception treatment and prevention of sexually transmitted infections, adequate prevention of HIV-infection, information on safe abortion etc. It may also include at least one consultation with a gynaecologist, an ultrasound of the pelvic organs, and a mandatory test for HIV, hepatitis and sexually transmitted infections. Inclusion of all the above listed procedures, tests and consultations may result in the higher cost for treating a traumatic case. Thus, the **ten (10) times** higher cost for traumatic as well as psychological cases considered in this study seems reasonable. The unit cost for fees for a specialist was obtained from the fees reported for the private hospital. The Ukraine study set three unit costs depending on the nature of violence: (i) minimum cost at US$236 (dealing with procedures and medications); (ii) cost at US$536 for traumatic cases; and (iii) cost at US$810 including psychological support (UNPFA and DFID 2017).

Table 5.5 Estimated cost of healthcare services due to VAWG

Category	Data	Parameters	Days	Unit cost (M)	Cost (M)
Visit to medical facilities	1,763			174	306,762
Emergency	1,763	0.280		100	49,364
Specialist	1,763	0.063		500	55,535
Hospitalisation	1,763	0.145	8	100	204,508
Total physical injury					**616,169**
Sexual violence: case	429			100	42,900
Sexual violence: psychological case	429			1,000	429,000
Sexual violence: traumatic case	429	0.100		1,000	42,900
Total sexual violence					**514,800**
Total healthcare cost					**1,130,969**
Total healthcare cost (inclusive of out-of-pocket expenses (1,130,969 × 1.2)*					**1,357,162**

Note: * Although overall out-of-pocket health expenses was 25 per cent of total health expenditures, since some health-related expenses are covered under the 'personal cost' category, it is desirable to use a lower percentage to avoid double counting. Thus, a lower rate of 20 per cent was used in this exercise to capture out-of-pocket health expenditure.

The Lesotho police department is legally obliged to protect everyone from all criminal acts associated with domestic violence, gender-based violence and violence against women and girls. The department is also responsible for enforcing all protection orders made by the judiciary and should be

Table 5.6 Judiciary data and GBV conversion

	Courts						Total GBV
	Magistrate	∂j	GBVm	Children	βj	GBVc	
1. Number of complaints	11,200	0.785	3,700	7,136	0.785	1,755	5,463
2. Number of protections	8,789	0.051	2,904	5,600	0.067	1,383	4,287
3. Number of probations				481	0.014	119	119
4. Number of evictions	575	0.283	190	102	0.518	25	215
5. Number of persons sent to prison	3,168	0.214	1,047	3,696	0.785	913	1,959
6. Number of sexual offences	2,392		2,392	1,606		1,606	3,998

Note: Where, j = 1..6 (1 = complains; 2 = protections; 3 = probations; 4 = evictions; 5 = persons sent to prison; 6 = sexual offences)

contacted immediately when orders are breached.[6] Several agencies are involved in case compilation, assessment and prosecution etc. Time spent for each of these categories by various agencies involved is reported in Table 5.7.

Costing for law enforcement and the judiciary is based on the data and activities of these two agencies. Data and parameters used for the cost estimation for law enforcement and the judiciary are reported in Table 5.8.

The following specification was used to estimate costs for law enforcement and the judiciary for each category:

Law Enforment and Judiciary Cost$_i$ = ($Data_i \times Days_i$) $\times$ *Unit Cost*$_i$

Where, i = 1.7 (1 = service call, 2 = registration, 3 = protection, 4 = probation, 5 = eviction, 6 = sexual offences and 7 = prison). The specifications and estimated costs are provided in Table 5.9.

5.3 Social services

Social services are provided by the Social Development Ministry. No data for 2017 was made available to the project team. However, according to the Violence Against Children Survey of, 357 cases were compiled for social services in 2019. The number of self-referral cases[7] was 309 in 2019. We deflated these data using population growth rates

between 2019 and 2017.[8] Using the population growth rates, the numbers for 2017 were derived at 351 and 304 respectively for compiled cases and self-referral cases. Time spent for case compilation and services provided to the referred case were obtained from discussion with social development staff.Data and parameters used for costing of social services are provided in Table 5.10.

The following specification was used to estimate the cost of social services for each category:

Social Services Cost$_i$ = ($Data_i \times Days_i \times Parameter_i$) $\times$ *Unit Cost*$_i$

Where, i = 1..2 (1 = case compilation; 2 = self-referral cases). The specifications and estimated costs are provided in Table 5.11.

5.4 Specialised services (shelter)

The shelter (also known as LAPENG Shelter) was operated under the Ministry of Gender's budget. The shelter was for abused women (hereafter referred to as 'clients'), be they survivors of physical, sexual, emotional or economic abuse. The centre also dealt with inheritance cases.

Clients who were sent to the centre were referred by:

• the police (Head Quarters Office)

• organisations such as the Lesotho Federation of Women Lawyers (FIDA), Women and Law in Southern Africa (WILSA), Gender Links, SheHive

• the legal system

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6   See: http://www.socialdevelopment.gov.sc/index.php/ social-services/of-domestic-violence/18-domestic-violence-role-of-service-provider.

7   'Self-referral cases' means cases that were resolved through joint session.

8   According to the World Bank, the population growth rate was reported at 0.8 per cent for 2018 and 2017. See: an https://data.worldbank.org/indicator/SP.POP.GROW.

Table 5.7 Time spent by GBV cases

Physical injury	Sexual offences	Negligence
Team composition	Team composition	Team composition
Police	Police (CGPU)	Police
Prosecutor	Prosecutor	Clerks of court
Victims of crime officer	Clerks of court	Magistrate
Clerks of court	Magistrate	Family Support
Magistrate	Medical officer	Ministry of Social Development
Family support	Correctional officers	Social workers
Correctional officers or alternative dispute resolution		
Social workers		
Tasks included	Tasks included	Tasks included
• Police bring case to prosecutor	• Police take accused for HIV testing and complainant for medical help	• Police bring case to prosecutor
• Prosecutor may refer the matter to Victims of Crime for mediation if parties want to settle out of court	• Police bring case to prosecutor	• Prosecutor may refer the matter to Victims of Crime for mediation if parties want to settle out of court
• Prosecutor files case with the clerk of court who allocates the case to a magistrate	• Prosecutor files case with the clerk of court who allocates the case to a magistrate	• Prosecutor files case with the clerk of court who allocates the case to a magistrate
• Bail is administered and protective conditions imposed by the court	• Bail is administered and protective conditions imposed by the court	• Bail is administered and protective conditions imposed by the court
• Case proceeds to hearing	• Case proceeds to hearing	• Case proceeds to hearing
• Verdict	• Verdict	• Verdict.
• Sentencing and/or alternative dispute resolution.	• Sentencing	• Alternative dispute resolution
Time spent	Time spent	Time spent
1 to 3 days × 7 hours	3 to 7 days × 7 hours	1 to 3 days × 7hours
Average case time hearing ranges from 1 to 3 days, depending on the merits of each case	Average case time hearing ranges from 3 to 7 days, depending on the merits of each case	Average case time hearing ranges from 1 to 3 days, depending on the merits of each case

The above-mentioned organisations had to go via the police when they referred clients to the shelter. There were also self-referrals. Sometimes self-referrals arose when people who had been to the centre told their friends about it and those in turn self-referred.

Client assessment: the client was assessed by a social worker to see their condition and to determine the client's care and support needs. The assessment also included seeing what they needed in the way of clothes or cosmetics.

Implementation plan: A plan for a way forward was made. The client was involved in the making of the plan. Sometimes the plan involved the shelter personnel calling their client and the perpetrator (her husband/partner) to the Ministry of Gender headquarters to bring them together and to offer mediation between the two parties.

Nurse: After the implementation plan was made, the client then met the nurse who was attached to the shelter. The nurse examined her to determine the kind of help she needed. In most physical abuse

Table 5.8 Data and parameters used in cost estimation for law enforcement and the judiciary

Data and parameter	Value	Source
Data:		
Number of complaints (administrative offences)	5,455	Derived from judiciary data
Number of protection orders	4,281	Derived from judiciary data
Number of probation orders	118	Derived from judiciary data
Number of evictions	215	Derived from judiciary data
Number of persons sent to prison	3,998	Derived from judiciary data
Number of sexual offences	1,956	Derived from judiciary data
Unit cost (M):		
Hourly wage of a police inspector	73	Derived from Government Notification
Hourly wage of a police officer	36	Derived from Government Notification
Hourly wage of a judge	132	Derived from Government Notification
Hourly wage of medical staff	76	Derived from Government Notification
Hourly wage of family support staff	36	Derived from Government Notification
Hourly wage of prosecutor support staff	36	Derived from Government Notification
Hourly wage of probation staff	58	Derived from Government Notification
Daily cost of detention	135	Probation
Hourly cost of service call (patrol)	130	Assumed but based on primary survey

Table 5.9 Estimated cost of law enforcement and judiciary services due to VAWG

Category	Data	Days	Unit cost (M)	Total cost (M)
Cost of service call by police	5,455		130	709,209
Registration and administration cost of case	5,455		192 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132)	1,049,630
Protection	4,281		192 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132)	823,685
Probation cases/arrests	118	1	327 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132) + (1*135)	38,740
Eviction	215	1	203 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132) + (1*76)	43,655
Sexual offences	3,998		268 = (1*36) + (1 * 36) + (1*58) + (0.2*132) + (1*36) + (1*76)	1,073,063
Long-term detention (prison)	1,956	365	135	96,371,426
Total cost				**100,109,408**

Note: * the estimated figure is 1,955.70, but it is reported here as 1,956.

Table 5.10 Data and parameters used in social services cost estimation due to VAW

Data and parameter	Value	Source
Data:		
Number of compiled cases	351	Violence Against Children Survey, 2019
Number of self-referral cases	304	Violence Against Children Survey, 2019
Parameter:		
Hours of social workers for case compilation	4	Discussion with social development staff
Hours of social workers time for counselling services	5	Discussion with social development staff
Unit cost:		
Hourly wage of a social worker	58	Derived from Government Notification

Table 5.11 Estimated cost of social services due to VAW

Category	Data	Days	Parameter	Unit cost (M)	Total cost (M)
Cost of case completion for family tribunal	351	2	4	58	163,008
Cost of self-referral cases	304	7	5	58	617,274
Total cost					780,282

Note: * the estimated figure are rounded up and down according to published reporting rules. Thus, calculations based on the presented figures may not result in the exact values reported in the above table.

cases, the nurse had to offer medication and any other help for the client to heal.

Social worker: The social worker was the next person the client saw for a counselling session. The social worker then took the client to the shelter matron, for the latter to allocate the client some living space. The shelter also offered group counselling.

Recreational therapy: During the course of their stay at the centre, the women were offered training on income generating activities such as knitting/sewing, beadwork and cooking.

Home visits: The shelter personnel also paid visits to families experiencing problems with violence to offer support and to teach them how to deal with the situation. Due to limited space at the shelter, some clients were not kept at the shelter; this was provided they had somewhere safe where they could stay. The police were involved in this to ensure the safety of the client.

Shelter: The maximum amount of time that the client could stay at the shelter was six months. A client was only allowed to stay at the centre three times. This applied to all types of clients from different types of abuse. This was because most clients would ask to be released to go back to their abusive husbands; when they were abused again, they went back to the centre. This would then become 'a cycle of abuse'.

Evidence: The shelter did not look for evidence every time. Most times they accepted the word of the client, but they would get most information when they visited the families. The shelter personnel also went back to the families repeatedly after the client had left the shelter to monitor how the relationship was going.

The shelter did not go to the Family Tribunal, but referred clients and provided them with guidance on how to access and use the tribunal. The shelter also provided the following services:

- It referred clients to the Children's Court in cases where there was a children's custody case. In both cases, the husband would then receive a summons to go to the Family Tribunal and/or the Children's Court.

- It referred survivors to the Victims' Office and to the Magistrate's Court, to open cases against the perpetrators.

- It worked with the Office of the Master of the High Court in cases regarding inheritance, where women, and sometimes children, were dispossessed of their inheritance.

Table 5.12 Utility and food expenses to operate the shelter

	Payment in 2018		Adjusted payment in 2017
Utility	Quarterly payment (maloti)	Yearly payment (maloti)	Yearly payment (maloti)
Electricity	12,000	48,000	45,312
Water	30,000	120,000	113,280
Food	35,000	140,000	132,160
Total	77,000	308,000	290,752

The centre, through AIDS Free, an NGO that operated within the shelter, also carried out advocacy work and offered a range of services. These included:

- Gender-based violence: Shelter staff went to villages to teach people about gender-based violence and identification of victims/survivors of abuse. The survivors would then be referred to the AIDS Free social worker for counselling and any other assistance they may need.

- Communication to change customs: Outreach workers talked to villagers and supported changes to harmful norms or traditions. Village people had always believed in these customs, but they in fact served to belittle women. For instance, there is a saying in Sesotho that *'mosali o ngalla mots'eo'*, meaning no matter the violence a woman receives from her husband, she has to stay with him.

- Interpersonal communications. This involved imparting knowledge regarding condom distribution and their uses, as well as knowledge on acceptable norms.

- Life skills training. This was offered at schools so that children could be helped to grow up already learning to be self-reliant.

Cost of operating the shelter

As mentioned above, the shelter operated under the Ministry of Gender's budget.

Utility and food expenditure

The ministry paid for utilities such as electricity and water for the shelter. It also purchased food for the centre, with all payments made on a quarterly basis. The researchers converted the quarterly payments into a yearly payment by multiplying the quarterly items by four. The payments for 2017 were then adjusted downward, applying the inflation rate of 2018[9] (Table 5.12).

Personnel cost

The shelter was run by ten staff. Their estimated monthly salaries were provided for 2018. Information on monthly salaries and staff numbers were used to estimate the yearly personnel cost for 2018. In this process, the lower salary value was used. For instance, for the chief gender officer's yearly salary of M216,000 was estimated as (1 × 18,000 × 12). Again, the staff costs for 2018 were then adjusted downward, applying the inflation rate of 2018, thus obtaining yearly salaries for the shelter's staff in 2017 (Table 5.13).

The total cost of the shelter in 2017 was M1,108,634 (290,752 + 817,882).[10] In this case, the total operating cost approach was adopted to measure the cost of this service.

5.5 Learning lost

Children are heavily affected by domestic violence. Even if they are not the direct victims, domestic violence has significant impacts on their behaviour and lifestyle, including being able to concentrate at school. An important revelation during the second project mission in Seychelles was on the learning time lost at education intuitions due to VAWG. Teachers from two schools in Praslin claimed that learning lost due to VAWG was between 25 and 35 per cent of total learning time in a year (Commonwealth Secretariat 2019).

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9   Applying inflation rate of 5.6 per cent for 2018. Source: https://tradingeconomics.com/lesotho/inflation-cpi.

10 The shelter was given stationery by the ministry as the need arose. Cosmetics for clients were bought and distributed by independent funders such as UNFPA. When shelter personnel visited the villages, they were bought packed lunches and received M50 per diem for a stay overnight. These costs were not included in the total shelter cost.

Table 5.13 Personnel expenses to operate the shelter

| Personnel | 2018 | | | 2017 |
	Staff Number	Monthly salary (maloti)	Yearly salary (maloti)	Yearly salary (maloti)
Chief gender officer	1	18,000–20,000	216,000	203,904
Nurse	1	14,000–15,000	168,000	158,592
Social worker	3	10,000–12,000	360,000	339,840
Matron	2	3,000+	72,000	67,968
Office assistants	3	1,400	50,400	47,578
Total	10		866,400	817,882

A similar approach to estimate learning time lost due to VAWG was followed for Lesotho. Accordingly, meetings were arranged with selected schools and the Ministry of Education to find out their perception on the extent of learning time lost in education institutions in Lesotho in an academic year due to VAWG. The approach did not generate the information that was sought, because school do not gather data on causes of absenteeism. However, the consulted stakeholders indicated that the learning time lost due to VAWG was an important aspect in Lesotho, thus the cost implications needed to be incorporated.

To overcome the lack of data, an alternative approach was adopted which incorporated (i) a review of exiting literature to find statistics on the extent of learning time lost in other countries or instances; (ii) a review learning time lost parameters reported in Seychelles; and (iii) identification of budget allocation for the education sector, especially for primary and secondary education.

In order to convert learning time lost to a monetary measure, the proportional cost approach, which was followed in Seychelles, was also adopted for Lesotho. According to the Budget Speech (Government of the Kingdom of Lesotho 2018),], there was no separate information on primary and secondary education budget allocation. Instead, budget allocation was provided for the total education budget, which was M2,236,900,050 (please refer to Annex V at page 23, Government of the Kingdom of Lesotho, Budget speech, 19 July 2017). However, to proceed with the estimation, allocations for primary and secondary education were needed.

Box 5.1 Impacts of VAWG on children and learning time lost

Case 1: England

Although recent statistics from the Department of Education (DEF) did not report on the extent of learning time lost in schools, the report suggests the number of children affected by VAWG in England. Statistics from the DEF (2017) demonstrated that of the 646,120 children referred to children's social care in England in 2016–17, the police provided the highest number of referrals at 27.5 per cent followed by schools themselves at 17.7 per cent. The third largest number of referrals was reported by health services at 14.4 per cent. School referrals combined with education services referrals of 2.6 per cent implied that education accounted for 20.3 per cent of referrals overall. Once the assessment of the referred cases was completed, factors for referrals were identified. According to DEF in 2016–17, the most common factor was domestic violence – which applied to 49.9 per cent of the children in need. The second most common factor was mental health at 39.7 per cent, which encompassed the mental health of the child or adults in the household. Radford et al. (2011) argued that the incidence of 'domestic violence is not only high among children in need but also among the wider population with as many as one in six young people in the United Kingdom reporting experiencing it during their childhood'.

Case 2: Seychelles

	Secondary school	Primary school
Student	600 (girls – 55%; boys – 45%)	609 (girls – 65%; boys – 35%)
Teachers	50	50
Ways to detect	• Observations by child protection officers • Teachers' observations of physical injuries, absenteeism, erratic behaviour, neglect, drop-outs	• Observations by child protection officers • Teachers' observations of physical injuries, absenteeism, erratic behaviour, neglect, drop-outs
Vital signs		Neglect: 1/10 = 10% Physical injury: 1/20 = 5%
Learning time lost	25% of effective learning time	35% of effective learning time

According to a report by UNICEF (2017) it has been found that allocation for primary (56.8%) and secondary (28%) education together accounts for about 85 per cent of the total education budget (Figure 5.1). The extent of learning time lost is set at 15 per cent (adopted from Seychelles Report, Commonwealth Secretariat 2019), in line with the review of existing data. It is also assumed that there is one-to-one correspondence between learning and the education budget – that is, one (1) maloti spent on education leads to one (1) maloti worth of learning (Table 5.14).

The following specification was used to estimate the cost of learning time lost:

$$Learning\ Time\ Lost_i = Budget_i \times Proportional\ Cost_i$$

Figure 5.1 Composition of education spending

Composition of education spending

Primary: 56.8
Secondary: 28
Tertiary: 5.5
Others: 9.7

■ Primary   ■ Secondary   ■ Tertiary   ■ Others
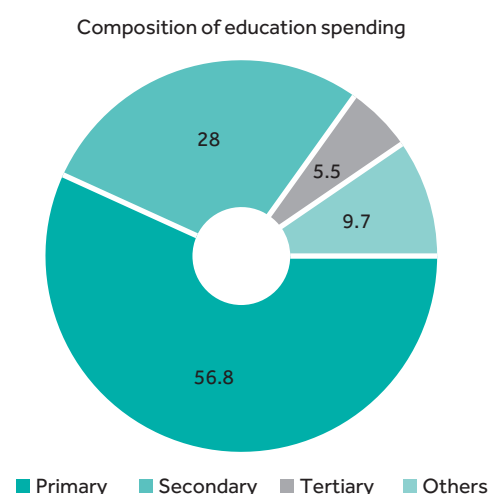
Table 5.14 Data and parameters used in learning lost estimation

Data and parameter	Value	Source
Data:		
Education budget (Maloti)	M2,236,900,000	Ministry of Finance: Budget Speech 2017
Parameter:		
Extent of learning time lost	0.15*	Adopted from Seychelles Report
Share of primary and secondary schools in total education budget	0.85	UNICEF (2017)

Note: * Teachers from two schools in Seychelles claimed that learning lost due to VAWG was between 25 and 35 per cent of total learning time in a year. However, learning time losses of these magnitudes seem large and hence were corroborated with the school welfare officer at the Ministry of Education. Although acknowledging the prevalence of learning time loss in schools due to VAWG, the officer suggested a much lower rate of 10 per cent learning time lost. As a compromise 15 per cent rate was adopted in Seychelles.

Table 5.15 Estimated cost of learning time lost in schools

Category	Data	Parameter		Total cost (maloti)
Total education budget	2,236,900,000	0.85	0.15	=> (2,236,900,000 × 0.85) × 0.15 = 285,204,750
Total learning time lost				285,204,750

The specifications and estimated costs are provided in Table 5.15.

5.6 Cost of divorce

During the third in-country mission, the issue of VAWG and divorce was pointed out by officials from the judiciary. According to them, the main reason for the high incidence of divorce in Lesotho is VAWG.

They identified the following main reasons for divorce: A. Desertion: (i) malicious desertion (going away); and (ii) constructive desertion (i.e. physical assault, beating etc.); and B. Adultery. It was also argued strongly by the High Court that the main factor behind divorce in Lesotho was VAWG. Due to the relatively small overall number of divorce cases, and following advice from the Judiciary that VAWG

seems to be a feature in a significant proportion of these, all divorce cases have been included for estimating the cost of divorce.

In 2017, according to High Court statistics, 615 civil cases were filed. Of these, 565 were divorce cases. Divorce cases are usually settled in two forms: some are contested while others are uncontested (i.e. settled through mediators). The cost of divorce is reportedly high in Lesotho and hence it was agreed that the cost of divorce should also be included in the costing exercise. Data and parameters for assessing personal cost were based on the primary survey (Table 5.16).

The following specification was used to estimate the cost of divorce:

$$Divorce\ Cost_i = (Data_i \times Parameter_i) \times Unit\ Cost_i$$

Table 5.16 Data and parameters used in the estimation of divorce costs

Data and parameter	Value	Source
Data:		
Number of uncontested cases	450	High Court
Number of contested cases	115	High Court
Parameters:		
Days needed in uncontested cases	1	High Court
Days needed in contested cases	5	High Court
Daily hours allocated for uncontested cases	1	High Court
Daily hours allocated for contested cases	3	High Court
Unit costs (M):		
Average cost of settlement in uncontested cases	25,000	High Court
Average cost of settlement in contested cases	35,000	High Court
Hourly wage of registrar clerk	36	Derived from Government Notification
Hourly wage of court messenger	36	Derived from Government Notification
Hourly wage of allocating officer	36	Derived from Government Notification
Hourly wage of judge's clerk	36	Derived from Government Notification
Hourly wage of mediator	58	Derived from Government Notification
Hourly wage of a judge	132	Derived from Government Notification

Note: Divorce data was provided by the judiciary. Due to the relatively small overall number of divorce cases, and following advice from the judiciary that VAWG seemed to be a feature in a significant proportion of these, all divorce cases were included to estimate the cost of divorce.

Table 5.17 Estimated divorce cost due to VAWG

Category	Data	Days	Parameters	Unit cost (M)	Total cost (M)
A. Uncontested cases					
Private cost	450			25,000	11,250,000
Public cost	450	1	1	334*	150,300
Total Uncontested cases					11,400,300
B. Contested cases					
Private cost	115			35,000	4,025,000
Public cost	115	5	3	276**	476,100
Total Uncontested cases					4,501,100
Total divorce cost (M)					15,901,400

Note: * Unit cost is composed of hourly wage of a registrar clerk; hourly wage of a court messenger; hourly wage of an allocating officer; hourly wage of mediator; hourly wage of judge's clerk; and hourly wage of a judge. This is thus derived as 334 = (36 + 36 + 36 + 36 + 58 + 132). ** Unit cost of derived as 334−58 (as mediator is not involved).

Where, i = 1.4 (1 = personal expenses for uncontested cases, 2 = public expenses for uncontested cases, 3 = personal expenses for contested cases, 4 = public expenses for contested cases). The specifications and estimated costs are provided in Table 5.17.

5.7 Personal cost

Given that the extent of public services (i.e. those services provided free at the point of delivery) sought by VAWG survivors was low, assessment of personal cost (i.e. out-of-pocket expenses) incurred by survivors themselves and their families could turn out of be an important source of cost. The main and perhaps only source of data to estimate personal cost was the target survey of actual VAWG victims/survivors. As expected, such information was not readily available in Lesotho and hence this aspect was covered under the primary survey that was carried out. Data and parameters for assessing personal cost were based on the primary survey (Table 5.18).

The following specification is used to estimate personal cost of physical and sexual violence for three types of losses:

$$\textit{Personal Cost}_i = (\textit{Data}_i \times \textit{Parameter}_i) \times \textit{Unit Cost}_i$$

Where, i = 1.7 (1 = personal expenses for transportation, 2 = personal expenses for ambulance call, 3 = personal expenses for diagnosis and medicine, 4 = personal expenses for inpatient services, 5 = personal expenses for legal services, 6 = cost of property damage and 7 = personal

expenses incurred for other items). The specifications and estimated costs are provided in Table 5.19.

5.8 Income loss

In addition to the cost of services associated with VAWG, such violence also results in large income losses to survivors, their families, communities and the whole of society. This is due to VAWG-related deaths and temporary incapacity to carry out regular work and household activities. Violence-led income losses are usually classified into following categories:

1.   death: income equivalent (income forgone) of irreversible losses (VAWG-related death);

2.   disability: income loss due to temporary and permanent incapacity (disability) of VAWG survivors; and

3.   disorder: income loss arises out of employment termination or reduced labour productivity.

The following approaches have been used in various studies to estimate income loss under the irreversible and reversible categories: value of statistical life and disability adjusted life years.

Value of statistical life (VSL): this approach estimates the lost life value (i.e. it is applicable to irreversible cases only) based on lost future income and intangible costs such lost employment life and lower quality of life. It is difficult to provide a monetary equivalent of the last component – lower

Table 5.18 Data and parameters used in the estimation of personal cost due to VAWG

Data and parameter	Value	Source
Data:		
Number of women who sought help	9,453	Judiciary
Parameters:		
% survivors who reported incurred transportation expenditure	0.09	Primary survey
% survivors who reported incurred cost to call ambulance	0.28	Primary survey
% survivors who reported incurred cost to call for diagnosis and medicine	0.25	Primary survey
% survivors who reported incurred inpatient cost	0.23	Primary survey
% survivors who reported incurred legal cost	0.31	Primary survey
% survivors who reported loss of property due to violence	0.27	Primary survey
% survivors who reported incurred other costs due to violence	0.28	Primary survey
Unit costs (maloti):		
Average value of transport expenditure	100	Primary survey
Average value of cost of ambulance call	121	Primary survey
Average value of cost of diagnosis	138	Primary survey
Average value of cost of inpatient services	117	Primary survey
Average value of cost of legal services	500	Primary survey
Average value property lost	360	Primary survey
Average value other personal expenses incurred	372	Primary survey

Table 5.19 Estimated personal cost of VAWG

Category	Data	Parameters	Unit cost (M)	Cost* (M)
Personal expenses for transportation	9,453	0.09	100	85,081
Personal expenses to call ambulance	9,453	0.28	121	320,283
Personal expenses for diagnosis and medicine	9,453	0.25	138	326,144
Personal expenses for inpatient services	9,453	0.23	117	254,393
Personal expenses for legal services	9,453	0.31	500	1,465,286
Cost of property damage	9,453	0.27	360	918,876
Personal expenses incurred for other items	9,453	0.28	372	984,672
Total personal cost				**4,354,735**

Note: * the estimated figure is 9453.5, but it is reported here as 9453. Thus, calculations based on 9,453 may not result in the exact values reported in the above table.

quality of life. As a result, it is argued that 'loss in life' has no market value. As such, the VSL approach to estimate income loss has only been attempted in some statistically advanced countries (Table 5.20).

Disability-adjusted life years (DALYs): this approach was designed by the World Health Organization (WHO) to measure global losses due to disease burden. It tries to measure the overall disease burden, expressed as the number of years forgone due to poor health, disability or early death. The main limitations with DALYs are: (i) the lack of any systematic method to translate it into monetary costs;[11] and (ii) it is extremely data intensive and methodologically complex (Duvvury et al. 2013).

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11 Access Economics (2004) used a method of deriving the value of a life year, ascribing value to statistical life and applying this to disability-adjusted life years to convert DALYs into dollar terms.

Table 5.20 Selected studies on using VSL approach

Countries	Year	Authors	VSL (in million $)
Australia	1991	Kniesner and Leeth	5.3
Canada	1999	Meng and Smith	2.9
Canada	2001	Gundrson and Hyatt	5.1–23.1
Hong Kong	1998	Siebert and Wei	2.1
India	2001	Shanmugan	1.3–1.8
UK	2000	Arabsheibani and Marin	38.4
USA	1990	Miller	4
USA	1993	Viscusi	4.9–11.5
USA	1996	Miller, Cohen and Wieresema	4
USA	2000	Smith	2.9–6.1
USA	2000	Viscusi	4.0–11.9
USA	2003	Leeth and Ruser	3.4
USA	2004	Viscusi	6.4
USA	2008	Andi and Viscusi	4.3–9.5
USA	2008	Viscusi	7.0–12.5

Considering the difficulties in applying the VSL approach and the WHO-recommended DALYs, due to non-availability of parameters as well as their suitability in the context of Lesotho, a much simpler unit cost approach[12] was adopted. This approach was based on the following data: VAWG-related deaths; the female labour force participation rate; incapacity to work on days due to different variants of injuries; the working life of a women; and per capita GDP of an employed person.

Although the most reliable source of VAWG-related deaths is the police department, no such data were found on Lesotho police records. We could not gather any VAWG-related disability data in Lesotho. However, the primary survey provided information on the extent of injuries, namely minor, medium gravity and grievous injuries.

In addition to hours spent at work, women and girls also spend time on household activities – for example, childcare, preparing food etc. Survivors in the focus group discussion suggested the average incapacity hours to be five. Finally, GDP per employed person for 2017 was estimated using the National Accounts and Labour Force Data. The data and parameters used are reported in Table 5.21.

A recent study by the UN Population Fund UNFPA (2017) also reported the average period of incapacity days by types of injures. These are reported below in Box 5.2.

The following specification was employed to estimate income loss under the irreversible and reversible categories:

Irreversible (death)

Income Loss = *Data* (death) × *Unit Cost (GDP per employed person)$_i$*

Reversible (disorder)

a.   *Income loss from employment = [Data (number of survivors) × Parameter 1 (female employment rate) × Parameter 2 (extent of injuries) × Parameter 3 (days unable to work due to injuries)] × Unit cost (GDP per employed person per year)*

b.   *Income loss from household activities = [Data (number of survivors) × Parameter 1 (median incapacity days) × Parameter 2 (average incapacity hours)] × Unit cost (GDP per employed person per year)*

The specifications and estimated costs are provided in the Table 5.22.

12 Such an approach was adopted by UNFPA and DFID (2017) to estimate income loss due to VAW in Ukraine.

Table 5.21 Data and parameters used in income loss estimation due to VAWG

Data and Parameter	Value	Source
Data:		
Number of deaths*	35	Derived from UNODC
Number of survivors	9,453	Judiciary
Parameters:		
Survivors reporting minor injury	0.216	Primary survey
Survivors reporting medium-gravity injury	0.053	Primary survey
Survivors reporting grievous injury	0.001	Primary survey
Incapable of working for days due to minor injury	5	UNFPA (2017)
Incapable of working for days due to medium-gravity injury	21	UNFPA (2017)
Incapable of working for days due to grievous injury	42	UNFPA (2017)
Employment rate among working-age women (%)	32.04	Labour Force Data
Survivors reporting household work disruption rate	0.29	Primary survey
Days incapable of household work	7	Primary survey
Median hours incapable of household work	6	Primary survey
Unit costs (M):		
GDP per employed person, per year – 2017 (maloti)**	36,814	National Accounts
GDP per employed person, per data – 2017 (maloti)***	147.3	National Accounts

Note: * No data was made available on femicide for 2017 either by the police, health sector or the judiciary. However, the United Nations Office on Drug and Crime (UNODC) in their Global Study on Homicide (2018) provided information on estimated numbers of gender-related killings of women and girls. From this, the female death rate by intimate partners or family members for Africa in 2017 was 3.1 per 1,000,000 of the population. Using this rate and the Lesotho female population of 1.12 million in 2017, the number of female deaths due to VAWG in 2017 was estimated at 35 (i.e. 34.7 rounded to 35).

** GDP in 2017 was M34,715,120,000; the number of employed persons was 942,983. Thus, GDP per employed person in 2017 was M36,814 (=34,715,120,000/942,983).

*** Given that there are 250 working days in a year, the per day per employed person's GDP was calculated to be: M147.3 (= 36,814/250).

Box 5.2 Categories of injuries attributable to VAW

Categories of	Forms of injuries	Minimum set of necessary healthcare services	Average period of incapacity, days
1. Minor injuries	Bruises, haematomas, scratches	Examination by traumatologist, medication, bandaging	05
2. Injuries of medium gravity	Fractions, dislocations, superficial wounds	Emergency medical aid, consultation of surgeon/traumatologist, radiography in several projections, primary surgical treatment of wounds, surgical dressing, imposing fixing bandages/plaster, local/general anesthesia, medication.	21
3. Grievous injuries	Deep penetrating wounds, traumatic brain injuries, rape etc.	Emergency medical aid, consultation of surgeon, radiography in several projections, MRI (brain) surgery preoperative examination, surgery, surgical dressings, local/general anesthesia, medication. Consultations of ophthalmologist, psychologist, neurologist in case of traumatic brain injury.	42

Source: UNFPA (2017)

Table 5.22 Estimated income loss due to VAWG

Category	Data		Parameters			Unit cost (M)	Cost (M)
		Employment rate	Extent of injuries	Days	Hours		
Irreversible (death)	35					36,814	1,288,495
Total irreversible							**1,288,495**
Reversible							
a. Employment income loss							
a.1. Minor injuries	9,453	0.324	0.216	5		147.3	487,118
a.2. Medium Gravity	9,453	0.324	0.053	21		147.3	502,002
a.1. Minor injuries	9,453	0.324	0.01	42		147.3	189,435
Total Employment income loss							1,178,555
b. household income loss	9,453		0.29*	07	06	147.3	16,955,581
Total reversible							**18,134,136**
Total income loss							**19,422,631**

Note: * this parameter refers to share of survivors who reported that their household activities had been affected due to VAWG.
Note: the estimated figure are rounded up and down according to published reporting rules. Thus, calculations based on the presented figures may not result in the exact values reported in the above table.

6. Approaches to Estimate Direct Cost ('Full Coverage' Case)

The total number of women aged between 15 and 64 in Lesotho in 2017 was 627,488 (Bureau of Statistics 2017). According to the primary survey (2019), two prevalence rates were reported as:

- Prevalence rate for physical violence – 24.6%

- Prevalence rate for sexual violence – 6.5%

Using these statistics, the number of women who experienced physical violence for 2017 (or in any typical year) in Lesotho was established as 154,362 (627,488 × 0.246). Similarly, the total number of women who experienced sexual violence was determined as 40,787 (627,488 × 0.065). Thus, the estimated number of VAWG survivors in 2017 in Lesotho was 195,149 (154,362 + 40,787).

This number constituted the main element of scenario generation under the 'full coverage' (or macro) case. All other parameters and the unit costs used in the typical case were retained for best-case estimation. Therefore, it may be argued that full coverage estimates were only influenced by the number of survivors estimated from the female population aged between 15 and 64.

The costs of four major cost derivers found in the typical case – specialised services (shelter), learning time lost (education), irreversible cost associated with death (femicide) and the cost of divorce – were kept unchanged under the full coverage case. This was because they had been based on supposedly 'full coverage' data (i.e. shelter: total cost of operating the shelter; learning time lost: actual primary and secondary school budget for 2017). Thus, the costs of law enforcement; social services; health service costs; personal costs and income loss were re-estimated under the full coverage case.

6.1 Health services

Data and parameters generated for the 'full coverage' case recorded two differences compared to the typical case. These were:

- *the number of VAWG-related survivors seeking health services was 195,149 compared to 1,334 in the typical case; and*

- *the number of sexual assault survivors was now increased to 40,787 rather than 429.*

The following specification was applied to estimate the healthcare costs of physical and sexual violence for each service or category:

$$Healthcare\ Cost_i = (Data_i \times Parameter_j) \times Unit\ Cost_i$$

Where, i = 1..4 (1 = visits to medical facilities, 2 = emergency services, 3 = specialist services and 4 = hospitalisation), while j = 1..2 (1 = prevalence rate for physical injuries and 2 = prevalence rate for sexual violence).

The specifications and estimated costs are provided in the Table 6.2.

6.2 Law enforcement and the judiciary

Data and parameters generated for the 'full coverage' case recorded a number of differences compared to the typical case. These were:

- *the number of VAWG-related survivors (which was 195,149 compared to 5,455 in the typical case);*

- *the number of protection orders was now increased to 153,141 rather than 4,287;*

- *the number of probation cases, which increased to 4,233 from 119;*

- *the number of evictions was simulated at 7,693 in place of 215 in the typical case; and*

- *the number of persons sent to prison was increased to 4,233 rather than 1,959.*

Table 6.1 Data, parameters and unit cost used in cost estimation for health (full coverage case)

Data and parameter	Value	Source
Data		
Number of VAWG-related survivors seeking health services	195,149	Full coverage estimates
Number of sexual assaulted survivors	40,787	Full coverage estimates
Parameter		
Share of emergency services	0.280	Primary survey
Specialist services	0.063	Primary survey
Hospitalisation	0.145	Primary survey
Sexual violence: traumatic case	0.100	Assumed
Unit cost (M):		
Visit to medical facilities	174	UNICEF (2017)
Emergency services	100	UNICEF (2017)
Specialist services	500	Private hospital
Hospitalisation	100	UNICEF (2017)
Sexual violence: case	100	UNICEF (2017)
Sexual violence: psychological case	1,000	Typical case
Sexual violence: traumatic case	1,000	Typical case

The following specification was used to estimate the cost of law enforcement and the judiciary for each category:

$$\textit{Law Enforment and Judiciary Cost}_i = (\textit{Data}_i \times \textit{Days}_i) \times \textit{Unit Cost}_i$$

Where, i = 1..7 (1 = service call, 2 = registration, 3 = protection, 4 = probation, 5 = eviction, 6 = sexual offences and 7 = prison). The specifications and estimated costs are provided in Table 6.4.

6.3 Social services

Data and parameters to estimate the cost of social services under the full coverage case are provided in the Table 6.5. This provides an update of the data and parameter sets used for the typical case,

Table 6.2 Estimated cost of healthcare services due to VAWG

Category	Data	Parameters	Days	Unit cost (M)	Cost (M)
Visit to medical facilities	195,149			174	33,955,886
Emergency services	195,149	0.280		100	5,464,116
Specialist services	195,149	0.063		500	6,147,186
Hospitalisation	195,149	0.145	8	100	22,637,257
Total physical injury					**68,204,494**
Sexual violence: case	40,787			100	4,078,672
Sexual violence: psychological case	40,787			1,000	40,786,720
Sexual violence: traumatic case	40,787	0.1		1,000	4,086,720
Total sexual violence					**48,944,064**
Total healthcare cost					**117,148,558**
Total healthcare cost (inclusive of out-of-pocket expenses (117,148,558 × 1.2)					**140,578,270**

Note: the estimated figure are rounded up and down according to standard reporting rules. Thus, calculations based on the presented figures may not result in the exact values reported in the above table.

Table 6.3 Data and parameters used in law enforcement and the judiciary cost estimation due to VAWG (full coverage case)

Data and parameters	Value	Source
Data:		
Number of registrations	195,149	Derived using primary survey shares for women who sought help (0.31) and female population between age 15 and 64, which was 627,488
Number of protection orders	153,141	Derived using judiciary share for protection orders (0.785) and 195,149
Number of probation cases	4,233	Derived using judiciary share for protection orders (0.0216) and 195,149
Number of evictions	7,693	Derived using judiciary share for protection orders (0.0394) and 195,149
Number of persons sent to prison	4,233	Full coverage case estimates for probation
Number of sexual offences	40,787	Full coverage case estimate
Unit cost (M):		
Hourly wage of a police inspector	73	Derived from Government Notification
Hourly wage of a police officer	36	Derived from Government Notification
Hourly wage of a judge	132	Derived from Government Notification
Hourly wage of a medical staff	76	Derived from Government Notification
Hourly wage of family support staff	36	Derived from Government Notification
Hourly wage of prosecutor support staff	36	Derived from Government Notification
Hourly wage of probation staff	58	Derived from Government Notification
Daily cost of detention	135	Probation
Hourly cost of service call (patrol)	130	Assumed, but based on primary survey

Table 6.4 Estimated cost of law enforcement and the judiciary due to VAWG (full coverage case)

Category	Data	Days	Unit cost (M)	Total cost (M)
Cost of service call by police	195,149		130	25,369,340
Registration and administration cost of case	195,149		$192 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132)$	37,546,623
Protection	153,141		$192 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132)$	29,464,298
Probation cases/arrests	4,233	1	$327 = (1*36) + (1*36) + (1*36) + (1*58) + (0.2*132) + (1*135)$	1,385,778
Eviction	7,693	1	$203 = (1*73) + (1*36) + (1*36) + (1*58)$	1,561,582
Sexual offences	40,787		$268 = (1*36) + (1*36) + (1*58) + (0.2*132) + (1*36) + (1*76)$	10,947,156
Long-term detention (prison)	4,233	365	135	208,565,069
Total cost (M)				**314,839,846**

Table 6.5 Data and parameters used in social services cost estimation due to VAW ('full coverage' case)

Data and parameters	Value	Source
Data:		
Number of compiled cases	12,770	Derived using the share of cases referred in the typical case (0.065 = 357/5,455) and full coverage case estimate of 195,149
Number of self-referral cases	11,053	Derived (12,770 × 0.8655*)
Parameter:		
Hours of social workers for case compilation	4	Discussion with SD
Hours of social workers' time for counselling services	5	Discussion with SD
Unit cost (M):		
Hourly wage of a social worker	58	Derived from Government Notification

Note: * according to the typical case data, self-referral cases were 86.5 per cent of the cases compiled for the typical case.

with only two exceptions – the number of women who sought assistance was 12,770 instead of the 351 used in the typical case and the number of self-referral cases was 11,053 in place of 304 in the typical case.

The following specification was used to estimate the cost of social services for each category:

$$Social\ Servcies\ Cost_i = (Data_i \times Days_i \times Parameter_i) \times Unit\ Cost_i$$

Where, i = 1..2 (1 = case compilation; 2 = self-referral cases). The specifications and estimated costs are provided in Table 6.6.

6.4 Personal cost

Data and parameters to estimate personal cost under the full coverage case are provided in Table 6.7. It is an update of the data and parameter sets used for the typical case, with only one exception – the number of women who sought assistance was 195,149 persons instead of the 9,453 used in the typcal case.

The following specification was used to estimate personal cost of physical and sexual violence for three types of losses:

$$Personal\ Cost_i = (Data_i \times Prevalence\ Rate_i) \times Unit\ Cost_i$$

Where, i = 1..7 (1 = personal expenses for transportation, 2 = personal expenses to call an ambulance, 3 = personal expenses for diagnosis and medicine, 4 = personal expenses for inpatient services, 5 = personal expenses for legal services, 6 = cost of property damage and 7 = personal expenses incurred for other items). The specifications and estimated costs areprovided in Table 6.8.

6.5 Income loss

Data and parameters to estimate income loss under the full coverage case are given in Table 6.9. This is an update of the data and parameter sets used for the typical case, with only one exception:

Table 6.6 Estimated cost of social services due to VAW

Category	Data	Days	Parameter	Unit cost (M)	Total cost (M)
Cost of case completion for family tribunal	12,770	2		232 = 4 × 58	5,925,445
Cost of self-referral cases	11,053	7		290 = 5 × 58	22,438,265
Total cost (M)					**28,363,710**

Table 6.7 Data and parameters used in personal cost estimation due to VAWG (full coverage case)

Data and parameter	Value	Source
Data:		
Number of women who sought help	195,149	Full coverage case estimate
Parameters:		
% survivors who reported incurred transportation expenditure	0.09	Primary survey
% survivors who reported incurred cost to call ambulance	0.28	Primary survey
% survivors who reported incurred cost to call for diagnosis and medicine	0.25	Primary survey
% survivors who reported incurred inpatient cost	0.23	Primary survey
% survivors who reported incurred legal cost	0.31	Primary survey
% survivors who reported loss of property due to violence	0.27	Primary survey
% survivors who reported incurred other costs due to violence	0.28	Primary survey
Unit costs (in maloti):		
Average value of transport expenditure	100	Primary survey
Average value of cost of ambulance call	121	Primary survey
Average value of cost of diagnosis	138	Primary survey
Average value of cost of inpatient services	117	Primary survey
Average value of cost of legal services	500	Primary survey
Average value property lost	360	Primary survey
Average value other personal expenses incurred	372	Primary survey

Table 6.8 Estimated personal cost of VAWG

Category	Data	Parameters	Unit cost (M)	Cost (M)
Personal expenses for transportation	195,149	0.09	100	1,756,339
Personal expenses for ambulance call	195,149	0.28	121	6,611,640
Personal expenses for diagnosis and medicine	195,149	0.25	138	6,732,632
Personal expenses for inpatient services	195,149	0.23	117	5,251,453
Personal expenses for legal services	195,149	0.31	360	21,778,603
Cost of property damage	195,149	0.27	500	26,345,084
Personal expenses incurred for other items	195,149	0.28	372	20,326,696
Total personal cost (M)				**88,802,447**

Note: the estimated figure are rounded up and down according to published reporting rules. Thus, calculations based on the presented figures may not result in the exact values reported in the above table.

- *the number of VAW survivors was 195,149 persons instead of 9,453 in the typical case.*

The following specification was used to estimate income loss under the irreversible and reversible categories:

Irreversible (death)

Income Loss = Data (death)
  x Unit Cost (GDP per employed person)

Table 6.9 Data and parameters used in income loss estimation due to VAWG (full coverage case)

Data and parameter	Value	Source
Data:		
Number of deaths	**35**	**Derived from UNODC (see Table 5.19 for details)**
Number of survivors	195,149	Derived from population data
Parameters:		
Survivors reporting minor injury	0.216	Primary survey
Survivors reporting medium-gravity injury	0.053	Primary survey
Survivors reporting grievous injury	0.001	Primary survey
Incapable of working for days due to minor injury	5	UNFPA (2017)
Incapable of working for days due to medium-gravity injury	21	UNFPA (2017)
Incapable of working for days due to grievous injury	42	UNFPA (2017)
Employment rate among working-age women (%)	32.04	Labour Force Data
Survivors reporting household work disruption rate	0.29	Primary survey
Days incapable of household work	7	Primary survey
Median hours incapable of household work	6	Primary survey
Unit costs (M):		
GDP per employed person in per year – 2017 (maloti)*	36,814	National Accounts
GDP per employed person per data – 2016 (maloti)**	147.3	National Accounts

Note: * GDP in 2017 was 34,715,120,000 maloti; number of employed persons was 942,983. Thus, GDP per employed person in 2017 was M36,814 (=34,715,120,000/942,983). ** Given that there are 250 working days in a year, the per day per employed person's GDP was calculated to be: 147.3 (=360,814/250).

Reversible (disorder)

a. *Income loss from employment* = [*Data (number of survivors*) × Parameter 1 (female employment rate) × Parameter 2 (extent of injuries) × Parameter 3 (days unable to work due to injuries)] × *Unit cost (GDP per employed person per year)*

b. *Income loss from household activities* = [*Data (number of survivors*) × *Parameter 1 (median incapacity days*) × *Parameter 2 (average incapacity hours*)] × *Unit cost (GDP per employed person per year)*.

The specifications and estimated costs are provided in Table 6.10.

Table 6.10 Estimated personal income loss due to VAWG (full coverage case)

Category	Data		Parameters			Unit cost (M)	Cost (M)
		Employment rate	Extent of injuries	Days	Hours		
Irreversible (death)	35					36,814	1,288,495
Total irreversible							**1,288,495**
Reversible							
a. Employment income loss							
a.1. Minor injuries	195,149	0.3204	0.216	5		147.3	10,055,632
a.2. Medium gravity	195,149	0.3204	0.053	21		147.3	10,362,887
a.3. Grievous injuries	195,149	0.3204	0.01	42		147.3	3,910,523
Total employment income loss	195,149						24,329,043
b. household income loss	195,149	0.29*		07	06	147.3	350,015,992
Total reversible							374,345,034
Total income loss (M)							**375,633,530**

Note: * this parameter refers to the share of survivors who reported that their household activities had been affected due to VAWG.

Note: the estimated figure are rounded up and down according to published reporting rules. Thus, calculations based on the presented figures may not result in the exact values reported in the above table.

7. Approaches to Estimate Economy-wide/Indirect Cost (Both Cases)

An important feature of the methodology used in the present exercise is that it is able to estimate the economy-wide impacts (cost) of VAWG. There are three widely used approaches to capture the economy-wide impacts:

- a fixed price multiplier model based on an input–output table or matrix (IOM);

- a fixed price multiplier model using a social accounting matrix (SAM) – which is a super set of the IOM encompassing activities, commodities, factors of production and institutions; and

- a flex price computable general equilibrium (CGE) model – which invokes markets (e.g. product markets, the labour market etc.), behavioural specifications of all agents (e.g. producers, consumers etc.) and closure rules (e.g. defining how the accounts are balanced).

Since the CGE model is a highly data demanding exercise and usually requires a longer time to reach a solution, it was agreed that a SAM-based fixed price model be used to assess the economy-wide impacts of VAWG (Figure 7.1).

There was no recent SAM available for Lesotho; nor was an IOM available for a recent year. However, a SAM for 2007 was available for Lesotho (IFPRI 2014). This SAM includes 24 activities, 23 commodities and 4 factors of production (i.e. three types of labour and one capital), and 14 other accounts.

The authors of the present example used this 2007 SAM to develop a SAM for 2017. The 2007 SAM was adjusted upward using price information for 2017. The SAM 2017 consists of 61 accounts – these are shown in Figure 7.2.

The move from a SAM data framework to a SAM model (also known as a multiplier framework) requires decomposing the SAM accounts into 'exogenous' and 'endogenous'. Generally, accounts intended to be used as policy instruments (for

Figure 7.1 Basic structure of a social accounting matrix (SAM)

		Expenditure columns							
		Activities C1	Commodities C2	Factors C3	Households C4	Government C5	Investment C6	Rest of world C7	Total
Income rows	Activities R1		Domestic supply						Activity income
	Commodities R2	Intermediate demand			Consumption spending (C)	Recurrent spending (G)	Investment demand (I)	Export earnings (E)	Total demand
	Factors R3	Value-added							Total factor income
	Households R4			Factor payments to households		Social transfers		Foreign remittances	Total household income
	Government R5		Sales taxes and import tariffs		Direct taxes			Foreign grants and loans	Government income
	Savings R6				Private savings	Fiscal surplus		Current account balance	Total savings
	Rest of world R7		Import payments (M)						Foreign exchange outflow
	Total	Gross output	Total supply	Total factor spending	Total household spending	Government expenditure	Total investment spending	Foreign exchange inflow	

Note: R = rows and C = columns

Figure 7.2 Description of Lesotho SAM 2017

SAM accounts	Detailed sector classification
Activities (24)	
	Crops, Livestock, and Other agriculture (03)
	Mining, Food and beverages, Textiles, Other manufacturing, Electricity and gas, Water distribution, and Construction (07)
	Trade services, Hotels and restaurant, Transport, Communication, Financial services, Government, Insurance, Rental services, Real estate, Other business services, Education, Health and social services, Private and other services, and Private households (14)
Commodities (23)	
	Crops, Livestock, and Other agriculture (03)
	Mining, Food and beverages, Textiles, Other manufacturing, Electricity and gas, Water distribution, and Construction (07)
	Trade services, Hotels and restaurant, Transport, Communication, Financial services, Government, Insurance, Rental services, Real estate, Education, Health and social services, Private and other services, and Private households (13)
Factors of Production (04)	
	Labour factor: high-skilled, medium-skilled and unskilled
	Capital factor
Institutions (09)	
	Household: 6 types – Rural wage, Rural farm, and Rural other; Urban skilled wage, Urban unskilled wage, and Urban other
	Government
	Rest of the World
	Savings or Gross Fixed Capital (consolidated capital)

Source: Lesotho SAM 2017

example, government expenditure, investment and exports) are made exogenous and accounts specified as objectives or targets (for example, output, commodity demand, factor return, and household income or expenditure) must be made endogenous. For any given injection into the exogenous accounts of the SAM, influence is transmitted through the interdependent SAM system among the endogenous accounts.

The interwoven nature of the system implies that the incomes of factors, households (HH) and production are all derived from exogenous injections into the economy via a multiplier process. The multiplier process is developed here on the assumption that when an endogenous income account receives an exogenous expenditure injection, it spends it in the same proportions as shown in the matrix of average propensities to spend (APS). The elements of the APS matrix are calculated by dividing each cell by the sum total of its corresponding column (please see Annex 2 for details on SAM-based modelling).

The multiplier analysis using the SAM framework helps to understand further the linkages between the different sectors and the institutional agents at work within the economy. Accounting multipliers were calculated according to the standard formula for accounting (impact) multipliers, as follows:

$$y = A\,y + x = (I - A)^{-1}x = M_a x$$

Where:

Figure 7.3 Chain effects
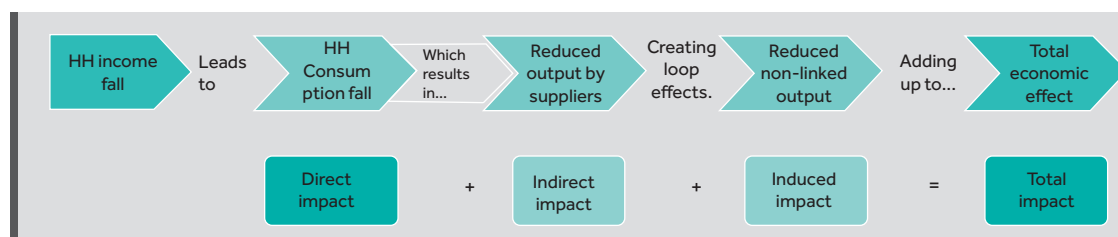
y is a vector of endogenous variables (*which is 47 according to SAM 2017, with only the activities account considered endogenous*)

x is a vector of exogenous variables (*which is also 47 according to SAM 2017*)

A is the matrix of average expenditures propensities for endogenous accounts, and

$M_a = (I - A)^{-1}$ is a matrix of aggregate accounting multipliers (generalised Leontief inverse).

The present multiplier model has only one endogenous account (i.e. activities), and hence it can calculate only one type of multiplier (activity multiplier) measure due to changes in any one of the various exogenous accounts.

Reductions in household consumption are expected to have a negative impact on the economy through different channels:

Direct effects: Any personal income loss for households reduces their consumption. A reduction in income leads to a lower demand for goods and services of their choice. The income and consumption declines (or changes) of households constitute *direct effects* of reduced personal consumption level due to VAWG.

Indirect effects: A reduction in household consumption is likely to lower demand for goods and services – requiring fewer outputs with less employment of factors (labour and capital). The fall in output and employment created in the supply chain (through backward linkages) are the *indirect effects*.

Induced effects: The retrenchment of workers in the contracting sectors (through indirect effects) now spend loss – which leads to a further reduction in production and employment in various other sectors throughout the economy, forcing a further reduction in demand. This spill-over effect is called an *induced effect*.

The chain of effects of the direct, indirect and induced impacts are illustrated in Figure 7.3.

The economy-wide impacts of the reduced income (resulting from VAWG) were examined by changing the total exogenous injection vector, especially household (HH) consumption. More specifically, the income losses under the 'typical' case was M20.6 million, while it was M376.8 million under the 'full coverage' case approach. The base year (i.e. 2017) consumption was adjusted downward for each of the 23 commodities according to observed base year shares to determine two separate injections – one for the typical case and other for the full coverage case – into the multiplier framework as exogenous shocks. The simulated results are provided in Table 7.1.

Simulated output loss under the 'typical' case was M34.7 million or 0.100 per cent of 2017 GDP. The industry sector was found to be most affected among the three broad sector categories, with a loss of M21.1 million. The total loss to the food and beverage was found to be M9.4 million. The output loss for the services sector was simulated at M9.4 million, with real estate bearing the major loss. Agriculture was the least affected sector, with an output loss of M4.2 million. Indirect impacts were overwhelming large at just over 96.8 per cent, while the induced impacts were small at 3.2 per cent of 2017 GDP.

Simulated output loss under the 'full coverage' case was substantially larger than under the 'typical case due to the larger income loss of M375.6 million (compared to only 19.4 million maloti in the typical case). The simulated output loss was M675.6 million or 1.946 per cent of 2017 GDP. Again, the industry sector was the most affected sector, with an output loss of M410.5 million. The total loss to the food and beverage was found to be M183.0 million. The output loss for the services sector was simulated at M182.6 million. Loss for agriculture was around M82.5 million. Shares of the indirect and induced effects were 96.8 per cent and 3.2 per cent of 2017 GDP respectively.

Table 7.1 Simulated output loss (million maloti)

Sector classification	Output loss (typical case)	Output loss (full coverage case)
Crops	1.78	34.56
Livestock	1.26	24.52
Other agriculture	1.20	23.43
Agriculture	**4.24**	**82.52**
Mining	2.64	51.42
Food and beverages	9.40	182.99
Textiles	3.69	71.94
Other manufacturing	4.64	90.41
Electricity, gas	0.43	8.44
Water distribution	0.15	2.98
Construction	0.12	2.29
Industry	*21.08*	*410.47*
Trade services	0.27	5.25
Hotels & restaurant	0.23	4.48
Transport	1.04	20.23
Communication	0.64	12.42
Financial services	0.64	12.42
Government	0.02	0.45
Insurance	0.23	4.53
Rental services	0.28	5.44
Real estate	3.90	76.02
Other business services	0.84	16.37
Education	0.45	8.82
Health and social services	0.42	8.17
Private and other services	0.24	4.58
Private households	0.18	3.43
Services	**9.38**	**182.62**
All	**34.70**	**675.61**
Memorandum items		
As percentage of GDP (2017)	*0.100*	*1.946*
Indirect effects*	*96.8*	*96.8*
Induced effects	*3.2*	*3.2*

Note: * Output losses were simulated for two type of cases using the SAM multiplier model. Since the same SAM multiplier model
was used to simulate the output loss, the shares of indirect and induced effects were the same at 96.8 per cent and 3.2 per
cent respectively.
Source: Based on Lesotho SAM model

Table 7.2　Estimated economic cost of VAWG (Lesotho)

Cost category	Typical case Victims*	In maloti	In USD	Full coverage case Victims	In maloti	In USD
1. Irreversible (deaths)	35	1,288,495	82,596	35	1,288,495	82,596
2. Reversible						
i. Employment income loss	855	1,178,555	75,548	17,641	24,329,043	1,559,554
ii. Missing value of lost household work	2,742	16,955,581	1,086,896	56,593	350,015,992	22,436,923
Total		19,422,631	1,245,040		375,633,530	24,079,072
B. Healthcare						
1. Sexual violence	429	514,800	33,000	44,865	48,944,064	3,137,440
2. Physical violence	1,763	616,169	39,498	290,381	68,204,494	4,372,083
Total		1,130,969	72,498		117,148,558	7,509,523
Total (with 20% out-of-pocket expenses)		1,357,162	86,498		140,578,270	9,011,428
C. Law enforcement and the judiciary						
1. Cost of service call to police	5,455	709,209	45,462	195,149	25,369,340	1,626,240
2. Registration and administration cost of case	5,455	1,049,630	67,284	195,149	37,546,623	2,406,835
3. Protection	4,281	823,685	52,800	153,141	29,464,298	1,888,737
4. Probation/arrest	118	38,740	2,483	4,233	1,385,778	88,832
5. Eviction	215	43,655	2,798	7,693	1,561,582	100,101
6. Sexual offences	3,998	1,073,063	68,786	40,787	10,947,156	701,741
7. Long-term detention (prison)	1,956	96,371,426	6,177,655	4,233	208,565,069	13,369,556
Total		100,109,408	6,417,270		314,839,846	20,182,041
D. Social services						
1. Case completion/registration	351	163,008	10,449	12,770	5,925,445	379,836
2. Counselling services	304	617,274	39,569	11,053	22,438,265	1,438,350
Total		780,282	50,018		28,363,710	1,818,187

(Continued)

Table 7.2 Estimated economic cost of VAWG (Lesotho) *(Continued)*

Cost category	Typical case			Full coverage case		
	Victims*	In maloti	In USD	Victims	In maloti	In USD
E. Specialised services						
Shelter		1,108,634	71,066		1,108,634	71,066
F. Education services						
Learning time lost		285,204,750	18,282,356		285,204,750	18,282,356
G. Divorce						
Private and public cost	450	15,901,400	1,019,321	450	15,901,400	1,019,321
H. Personal expenses						
1. Personal expenses for transportation	851	85,081	5,454	17,563	1,756,339	112,586
2. Personal expenses to call ambulance	2,647	320,283	20,531	54,642	6,611,640	423,823
3. Personal expenses for diagnosis and medicine	2,363	326,144	20,907	48,787	6,732,632	431,579
4. Personal expenses for inpatient services	2,174	254,393	16,307	44,884	5,251,453	336,632
5. Personal expenses for legal services	2,931	1,465,286	93,929	60,496	21,778,603	1,396,064
6. Cost of property damage	2,552	918,876	58,902	52,690	26,345,084	1,688,787
7. Personal expenses for other cost	2,647	984,672	63,120	54,642	20,326,696	1,302,993
Total		4,354,735	279,150		88,802,447	5,692,465
Total direct cost		428,222,394	27,450,153		1,250,432,586	80,155,935
Total economy-wide cost		34,700,035	2,224,361		675,608,727	43,308,252
Total cost		462,922,430	29,674,515		1,926,041,313	123,464,187
Total direct cost as % of GDP		*1.234*	*1.234*		*3.602*	*3.602*
Total economy-wide cost as % of GDP		*0.100*	*0.100*		*1.946*	*1.946*
Total cost as % of GDP		*1.334*	*1.334*		*5.548*	*5.548*

Source: Lesotho Costing Model

Note: * The values shown in the 'victims' column refers to numbers of occurrences rather than actual numbers of victims. For instance, one victim may need to visit different health facilities and hence incur different types and amount of costs in a year.

8. Summary Findings

8.1 Estimated cost of violence against women and girls in Lesotho

The framework used to estimate the economic cost of VAWG was numerically specified to 2017 data and parameters. The main finds are summarised in Table 8.1.

Total cost

The estimated total cost of VAWG in Lesotho under the *typical case* was M462.9 million (or 1.334 per cent of 2017 GDP). This comprised an estimated direct cost of M428.2 million (1.234% of GDP) plus an economy-wide indirect cost of M34.7 million (0.100 per cent of GDP).

*Under the full coverage case, the simulated (or derived) number of VAWG victims/survivors was based on population data that deemed the number of women in the age cohort between 15 and 64 in 2017 to be 627,*488 (Bureau of Statistics 2017). Using this number – 627,488 – and a VAWG prevalence rate of 31.1 per cent (Primary Survey 2019), the number of survivors in the full coverage case was estimated to be 195,149. By comparison, the number of survivors as reported in official administrative data was 9,453. As a result, the estimated total cost under the full coverage case was substantially higher than in the typical case.

The total cost under the *full coverage case* was estimated as M1,926.0 million (5.548 per cent of GDP). This was made up of the estimated direct cost of M1,250.4 million (3.602% of GDP) and the economy-wide indirect cost of M675.6 million (1.946 per cent of GDP).

Direct cost

Direct cost consists of cost of various services; personal cost (out-of-pocket expenses by survivors); and income loss.

- *Direct cost (typical case):* Among the various types of services, learning time lost in primary school turned out to be largest at M285.2 million (0.82 per cent of GDP). Unlike other services costs which were based on the 'unit' cost approach (where both the unit cost of

services and number of survivors were low, leading to a low cost estimate), learning time lost used the proportional cost approach (where part of the primary and secondary education budget was considered as learning time). The cost of law enforcement was also high, estimated at M100.1 million (0.29 per cent of GDP). Costs for social and specialised services were estimated to be M1.9 million. A surprising finding was that costs for health services costs were very low, estimated at M1.3 million (0.003 per cent of GDP). This was due to very low reporting of survivors by public health services, as well as the low unit cost for fees and charges. The *estimated total cost of services was M388.4 million (1.119* per cent *of GDP)*. The estimated personal cost was M4.4 million (0.013 per cent of GDP). A new element in the Lesotho costing exercise was the incorporation of the cost of divorce. It was argued (by High Court in Lesotho) that VAWG was the major cause of divorce in Lesotho. The estimated total cost of divorce in 2017 was M15.9 million or (0.046 per cent of GDP). Income loss due to the irreversible factor (VAWG-related deaths) and the reversible factor (temporary incapacity to carry out paid work and household work) was estimated at M19.4 million (0.056 per cent of GDP) under the typical case.

- *Direct cost (full coverage case):* Costs for the four cost derivers found in the typical case – learning time lost (education), irreversible income loss due to VAWG-related death, specialised services (shelter) and the cost of divorces – were kept unchanged under the full coverage case, since they were based on supposedly 'full coverage' data. Thus, the costs for law enforcement, health services, social services, personal cost and income lost were re-estimated under the full coverage case. Costs for law enforcement increased to M314.8 million. Costs of health services increased substantially to M140.6 million. Costs for social services and specialised services increased to M29.5 million. The estimated personal cost went up to M88.8 million.

Table 8.1 Summary of cost of VAWG in Lesotho (million maloti)

Cost categories	Typical case		Full coverage case	
	Cost	% of 2017 GDP	Cost	% of 2017 GDP
A. Direct cost	428.2	1.234	1,250.4	3.602
Services cost	388.5	1.120	770.1	2.218
Healthcare	1.4	0.004	140.6	0.405
Law enforcement and the judiciary	100.1	0.288	314.8	0.907
Social and specialised services	1.9	0.005	29.5	0.085
Learning time loss (education)	285.2	0.822	285.2	0.822
Divorce cost	15.9	0.046	15.9	0.046
Personal cost	4.4	0.013	88.8	0.256
Income lost	19.4	0.056	375.6	1.082
B. Economy-wide cost (indirect and induced)	34.7	0.100	675.6	1.946
Agriculture	*4.2*	*0.012*	*82.5*	*0.238*
Industry	*21.1*	*0.062*	*410.5*	*1.182*
Services	*9.4*	*0.027*	*182.6*	*0.526*
C. Total cost (direct + economy-wide)	*462.9*	1.334	*1,926.0*	*5.548*

The most dramatic increase was found for income loss under the full coverage case compared to the typical case, due to the higher number of VAW survivors unable to attend work being 195,149 compared to only 9,453 under the typical case. Income loss increased to M375.6 million in the full coverage case. The total direct cost under the full coverage case was M1,250.4 million (3.602 per cent of GDP). This estimate suggested an increase that was nearly three times greater under the full coverage case compared to the typical case.

Economy-wide indirect cost

A data SAM for Lesotho was updated for 2017 using a 2007 SAM and other required national accounts data for 2017 (i.e. value added, prices etc.). The data SAM was converted into a SAM multiplier model. Then, in order to carry out the consumption reduction shock on gross domestic product through the SAM, the 2017 consumption values were adjusted downward for each of the activities according to their shares for 2017. Following this approach, two consumption shocks were set up – one for the typical case and the other for the full coverage case. These shocks were then used with the SAM multiplier model to simulate output loss under the 'typical' case and 'full coverage' case.

- **Typical case:** The income loss under the 'typical' case was M19.4 million. Thus, household

(private consumption) was reduced by M19.4 million to simulate the impact on domestic output. Simulated output loss under the 'typical' case was M34.7 million (0.100 per cent of 2017 GDP). The industry sector was found to be most affected among the three broad sector categories, with a loss of M21.1 million. The output loss for the services sector was simulated at M9.4 million, with food processing bearing the major loss. Agriculture was least affected, with an output loss of M4.2 million.

- **Full coverage case:** The income loss under the 'full coverage' case was M375.6 million. Household (private consumption) was thus reduced by M375.6 million to simulate the impact on domestic output. Simulated output loss under the 'full coverage' case was M675.6 million (1.946 per cent of 2017 GDP). The industry sector was the most affected among the three broad sector categories, with a loss of M410.5 million. The output loss for the services sector was simulated at M182.6 million. Agriculture was least affected, with an output loss of M82.5 million.

These results of the present exercise can also be summarised according to broad cost categories and broad sectors for the typical case (direct costs and economy-wide/indirect and induced costs) and the full coverage case (direct costs and economy-wide/indirect and induced costs) – see below.

Figure 8.1 Estimated direct cost by broad cost categories (typical case)

Panel A: Direct cost (% of GDP)

Panel B: Share of cost categories in total cost (%)

■ Services ■ Personal expenses ■ Income lost
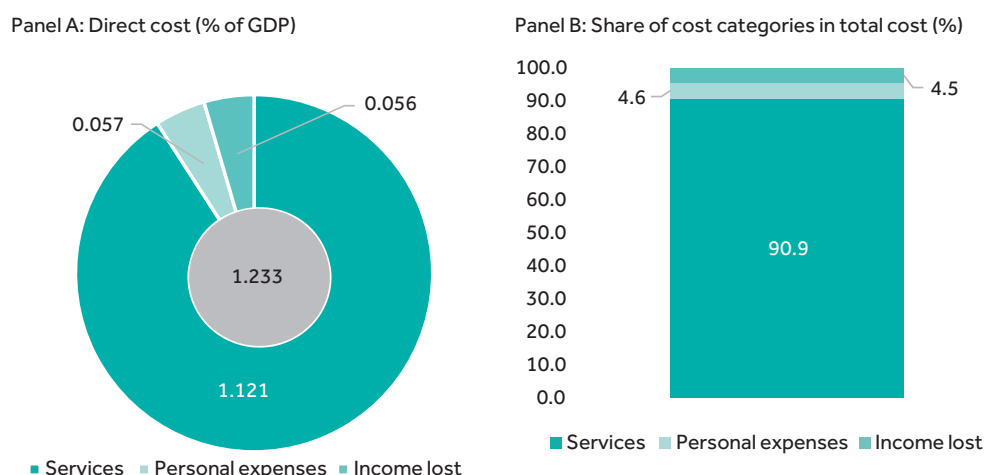
Source: Costing model.

8.2 Typical case (micro level)

The estimated direct cost of VAWG in Lesotho under the 'typical case' is presented in Figure 8.1. As explained in the methodology chapter above (Chapter 4), the cost estimates are based on: administrative data; parameters derived from the baseline study; the unit cost of services provided by agencies; and engagement of services personnel (e.g. police, social workers, medical staff etc.).

- The estimated *direct cost under the 'typical case' was M428.1 million or 1.233 per cent of 2017 GDP* (Table 8.1). A breakdown of direct cost by the three cost categories (services, personal expenses, income lost) suggests that the highest cost was incurred for various services. Cost incurred for services was 1.119 per cent of GDP. Income lost due to temporary incapacity (i.e. because of women's inability to attend work or perform household activities) was estimated at 0.056 per cent of GDP. Personal expenses accounted for about 0.059 per cent of GDP (including the cost of divorce, which was mainly borne by the divorced couple or their families).

- The share of cost by the three categories in total direct cost revealed overwhelming dominance of the services component. This alone accounted for almost of 91.0 per cent of total direct cost. The shares of other two categories – income lost and personal expenses – were 4.5 per cent and 4.6 per cent respectively.

The multiplier model based on the 2017 SAM was used to estimate the indirect cost of the VAWG. The SAM structure with 'endogenous' and 'exogenous' accounts is presented in Figure 8.2. Data from the SAM 2017 was converted into a multiplier model by partitioning the SAM into endogenous accounts (i.e. the 47 x 47 matrix) and exogenous accounts (i.e. factor account and final demand matrix – which contain the private consumption vector).

Income lost under the typical case was estimated at M19.4 million at 2017 prices (see Table 8.1). The M19.4 million lost income implies a reduction of private consumption expenditure (i.e. the household account in the SAM in Figure 8.2) by this amount. The private consumption vector of the SAM was adjusted downward by M19.4 million, preserving the consumption shares by the 23 commodities. The changed final demand due to the reduced private consumption vector was applied to the multiplier matrix to estimate the economy-wide cost of the VAWG (Figure 8.3).

The estimated economy-wide (indirect cost) under the 'typical case' was found to be 0.100 per cent of GDP. Among the three broad activities of the economy (agriculture, industry, services), the largest impact was recorded for industry at 0.062 per cent of GDP. The estimated GDP loss for the services and agriculture sectors were 0.027 per cent and 0.012 per cent respectively. The estimated indirect cost of 0.083 per cent of GDP substantially outweighed the induced cost of 0.003 per cent of GDP.

Figure 8.2 Structure of Lesotho SAM multiplier model

		Activity				Factors		Institutions				Total use
		A1	...	...	...	A24	LAB	CAP	HH	GoV	SAV	RoW	
Commodity	C1	Activity matrix (47 x 47) (Endogenous)							(Exogenous)				
	..												
	..												
	..												
	C23												
Factors	Labour	Leakages							Unrelated				
	Capital												
Institution	Household												
	Government												
	Savings												
	Rest of the world												
	Total supply												

Note: CAP = capital; LAB=labour; HH = households; SAV = savings; RoW = rest of the world.

Figure 8.3 Estimated economy-wide cost by broad sectors (typical case)

Panel A: Indirect cost by economic sector (% of GDP)

Panel B: Indirect and induced cost (% of GDP)

0.012

0.027

0.100

0.061

■ Agriculture ■ Industry ■ Services

0.003

0.083

■ Indirect ■ Induced
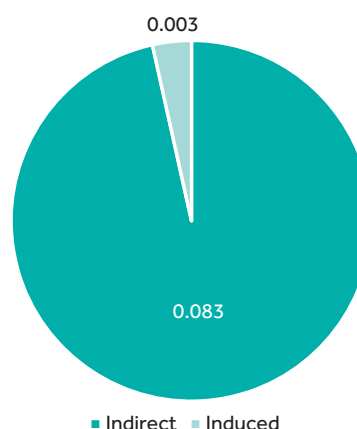
Source: Lesotho SAM Multiplier model.

8.3 Full coverage case (macro level)

The full coverage case estimates were simulated using the parameters of the typical case along with age cohort population data (i.e. in this case, the female population aged between 15 and 64).

Estimated direct cost under the full coverage case is presented in Figure 8.4.

• Estimated direct cost under 'full coverage case' was M1,250.4 million or 3.602 per cent of 2017 GDP (Table 8.1) – almost three times more than the cost found in

the 'typical case'. A breakdown of direct cost by the three cost categories (services, personal cost, income loss) suggested that the highest cost was associated with services cost at 2.218 per cent. Income loss due to temporary incapacity (i.e. inability to attend work or perform household activities) was estimated at 1.082 per cent of GDP. Personal expenses accounted for about 0.256 per cent of GDP under the 'full coverage case'.

• The share of cost by the three categories in total direct cost revealed dominance of

Figure 8.4 Estimated direct cost by broad cost categories (full coverage case)

Panel A: Direct cost (% of GDP)

Panel B: Share of cost categories in total cost (%)

■ Services cost ■ Personal cost ■ Income loss

■ Services cost ■ Personal cost ■ Income loss
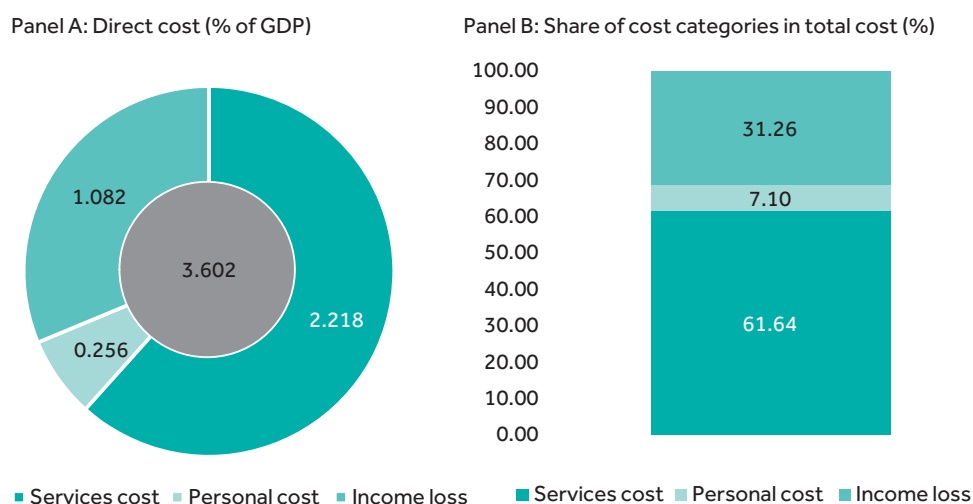
Source: Costing model.

Figure 8.5 Estimated economy-wide cost by broad sectors (full coverage case)

Panel A: Indirect cost by economic sector (% of GDP)

Panel B: Indirect and induced cost (% of GDP)

■ Agriculture ■ Industry ■ Services

■ Indirect ■ Induced
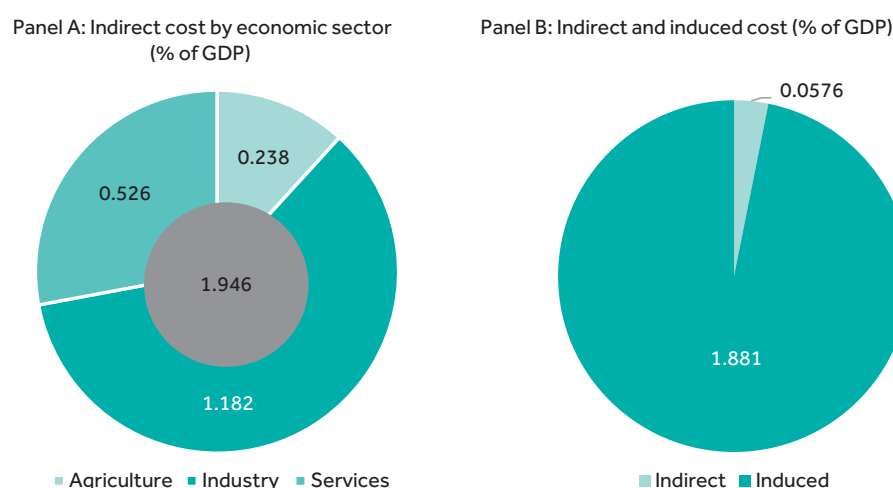
Source: Multiplier model.

the services cost – with almost a 62 per cent share. Income lost now accounted for about 31.3 per cent of total direct cost – substantially higher than reported in the typical case (i.e. 4.4 per cent). The share for personal expenses was around 7.1 per cent.

Estimated income loss under the 'full coverage case' was estimated at M375.6 million at 2017 prices (Table 8.1). The lost income implies a reduction of private consumption expenditure (i.e. household consumption in the SAM in Figure 8.2) by this amount. The changed final demand due to the reduced private consumption vector

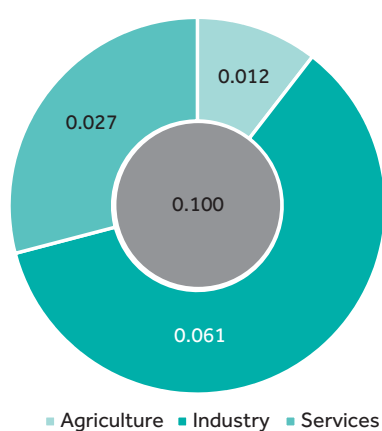was applied to the multiplier matrix (as explained above) to estimate the indirect cost of the VAWG in Lesotho.

The estimated economy-wide cost under the 'full coverage case' was found to be 1.946 per cent of GDP. Among the three broad activities of the economy (agriculture, industry, services), the largest impact was recorded for industry at 1.182 per cent of GDP. The estimated GDP loss for the services and agriculture activities was 0.526 per cent and 0.238 respectively. The estimated Indirect cost of 1.881 per cent of GDP again substantially outweighed the induced cost of 0.0576 per cent of GDP (Figure 8.5).

9. Conclusions

An important finding of the costing exercise that features in this report is that the deleterious effects of VAWG encompass everyone in the society. For instance, the **cost of VAWG to girls was 0.822 per cent of GDP (**or learning time lost in school**)**; the **cost to adult women was around 2.780 per cent of GDP; the cost to the public sector or fiscal cost was 2.264 per cent of GDP**; the **cost to the private sector was 1.946 per cent of GDP**; and thus the cost to the whole of **society was 5.548 per cent of GDP**. The elimination of VAWG thus needs actions on different fronts (Source: Table A, see Chapter 1).

Health and education services need special attention

Healthcare data collection in Lesotho is not able to capture the use of healthcare services by VAWG survivors, and hence cost assessment is challenging. However, by using the above discussed assumptions, the present exercise was able to estimate the cost of certain healthcare services (direct costs of medical treatment etc.) to be around M140.6 million or 0.405 per cent of GDP under the full coverage case. However, other healthcare services costs could not be estimated due to data limitations. These included the emotional and psychological costs of VAWG.

The following steps could help healthcare services to better cater to the needs of VAWG victims: (i) modification of the forms used for data collation; (ii) digitisation of data collection and sharing; (iii) training and capacity building provided for relevant staff on VAWG and data/ information collection, preservation, assessment and dissemination; (iv) providing referrals to social, economic and legal support; (v) development of clear policy guidelines and protocols to identify and respond to the physical and mental health needs of survivors of physical and sexual violence;[1] and (iv) revisiting the healthcare budget to allocate adequate funds to carry out these activities.

1   The WHO clinical and policy guidelines on responding to intimate partner violence and sexual violence against women are the international standard for health sector response to VAWG. See: https://www.who.int/reproductivehealth/publications/violence/9789241548595/en/

Another important finding of the Lesotho costing exercise concerned the **learning time lost** in school due to VAWG. Even a conservative estimate suggested that the static cost of learning time lost could be M285.2 million or about 0.822 per cent of GDP. Learning time lost has far-reaching implications on productivity and hence future earning potential.

The following steps could help improve education services: (i) empowering the schools either through employing dedicated school welfare personnel in each school or a cluster of schools (i.e. considering budgetary expenditure) or by imparting training to some of the existing teachers to deal with cases relating to VAWG; (ii) arranging special meetings with parents at regular intervals to find out ways to deal with such cases; (iii) digitisation of data collection and sharing; (vi) training on sensitive and appropriate response to disclosures related to VAWG; (v) focusing on prevention, education and safeguarding underpinned by awareness raising, training and support for staff, including effective safeguarding and signposting to specialist services; (vi) provision of education and support for students; and (v) revisiting the education budget to allocate adequate funds to carry out these activities.

Role of the private sector

The use of an economy-wide model revealed some interesting implications for the private sector. Almost all of the 23 activities or sectors considered in the model were run by the private sector. Annual output loss to the private sector due to VAWG was M675.6 million or 1.946 percent of GDP. **Given this high loss to the private sector, elimination of VAWG in Lesotho should also be a priority of this sector.**

The authors of this report envisage a number of roles for the private sector:

• 	representatives from the private sector must be included in working groups dealing with VAWG;

• 	as VAWG affects staff members' health and thus performance, employers should engage with specialist women's organisations to devise and implement strategies to prevent VAWG;

- the business sector should invest part of its corporate social responsibility funds in VAWG prevention;

- the occupational health and safety agenda should include mental health and well-being;

- companies should clearly define their stance on VAWG via an employee conduct policy;

- domestic violence risk assessments should be carried out; and

- training on gender equality and VAWG prevention should be provided for all staff, recognising that some staff (e.g. human resources, managers, security) may require more advanced training.

Prototype costing model

This report presents the development of a comprehensive economic costing model for Lesotho to estimate the cost of violence against women and girls using country-level data and parameters.

The prototype costing model developed under the aegis of the Commonwealth Secretariat was numerically specified with member country data from Lesotho. The Lesotho costing model was based on official data and covered several important services such as healthcare, law enforcement, social services and specialised services. It also included out-of-pocket personal costs incurred by VAW survivors, the cost of learning time lost at schools and an estimation of income loss due to women being absent from paid work and household activities. However, the model was unable to include some important costs – such as those related to emotional intimate partner and workplace violence.

A major limitation of the model was the number assumptions (as explained above) made to convert the healthcare data for this exercise. More accurate healthcare data may have implications for the outcomes of the costing exercise. Another limitation was the use of the social accounting matrix (SAM) based on a dated input-output matrix (IOM) to estimate the economy-wide costs. More time and resources could be allocated into this component to improve the outcome of the economy-wide estimation. A newly developed SAM based on more recent data would not only improve the VAWG costing component, but also help assessment of various economic policies considered in the country's development plan.

The major advantage of this model is that it was developed in an MS EXCEL environment and thus can be transferred to government counterparts (as well to other stakeholders) with focused training. A modular approach was considered in developing it, such that multiple developers can work simultaneously on different model components. The most important merit is that *it is a live product* – it allows updates, modifications and extensions with ease.

Recommended actions

- VAWG is a major violation of human rights and a public health issue. These aspects, coupled with the high economic cost of VAWG, require immediate and effective actions by the national authority. Following the above findings, the Department of Gender in collaboration with relevant stakeholders (including other government agencies) must formulate effective strategies to prevent, address and reduce VAWG.

- In this context, the government may formulate strategies in line with the 'whole system' approach. The whole system approach focuses on three important aspects that is prevention, provision and protection (Figure 9.1).

- Furthermore, strategies or policies may include enabling policies (e.g. enaction of a domestic violence bill) and focus on prevention and strengthening capacity of the service providers. The government may also prioritise the identified strategies over a short-, medium- and long-term period considering their importance, resource constraints and implementation capacity.

Interventions suggested by stakeholders

The following interventions were suggested by the stakeholders who participated in the stakeholders' consultation during the fourth mission on the findings of the Lesotho costing model.

- **Training on methodology:** Stakeholders proposed dedicated training on methodology for relevant government officials and other stakeholders, with the aim to institutionalise the costing model in Lesotho. In this context, GIZ proposed: (i) immediate availability of the final report; (ii) sharing and disseminating the results; and (iii) institutionalising this process through anti-GBV forum.

Figure 9.1 VAWG response to reduce incidents of domestic abuse
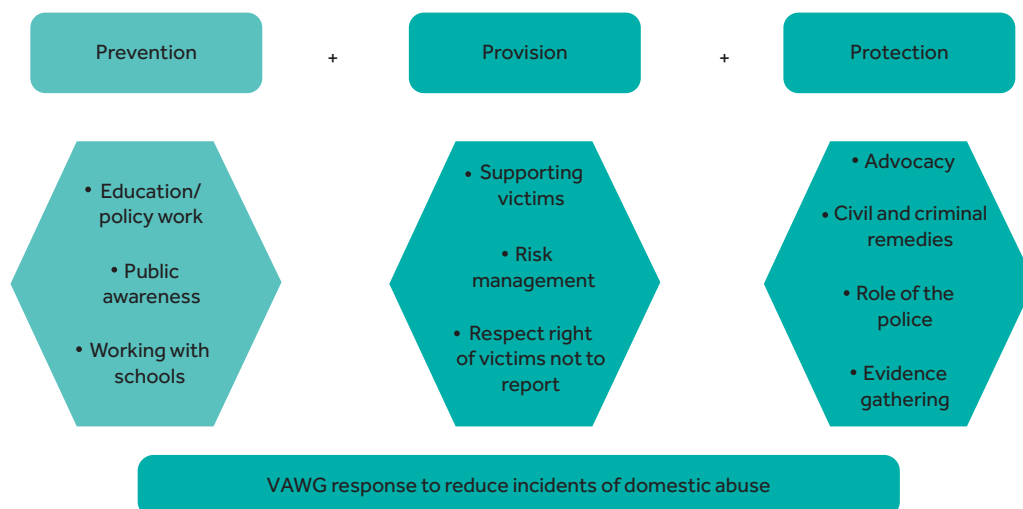
- **Strengthening capacity**: Strengthen capacity of all stakeholders dealing with VAWG with dedicated training programmes, digitisation of data and statistics, and better co-ordination of the work of different agencies involved in tackling VAWG. It was also argued that the referral system among stakeholders should be strengthened. Lesotho already has 'adolescent' health corners at the hospital level, whereby authorities can identify an office to allow police, social workers and other relevant service providers take statements.

- **Empowering schools**: The first step in this context may be to train some existing schoolteachers on how to deal with VAWG cases. Thereafter, the government may decide to employ dedicated school welfare personnel in each school or to serve a cluster of schools.

- **Multisectoral approach**: A multisectoral approach should be considered for VAWG in Lesotho. This approach should include the carrying out of law reform, including repeal or revision of discriminatory laws; as well as the introduction of new laws. Within this context,

it is important to expedite enactment of the Domestic Violence Bill, initiate work on a school bill (as it has implications on VAWG) and replace some sections of the Marriage Act 1974.

- **Data collection**: Efforts should be undertaken to gather data and statistics on some of the weaker areas such as reasons behind absenteeism in schools, such that learning time lost in schools can be better measured. Similarly, detailed data on social services were not available for 2017, forcing researchers to use information from a survey conducted in 2019, with downward adjustments for 2017. Nor was there any data available on femicide, despite anecdotal evidence and UNODC estimates related to the murder of women in Lesotho. Thus, it is important to gather data for 2017 to improve the costing of the social services component of the costing exercise. It is also important to introduce or improve data collection and reporting through appropriate data collection templates. Additionally, data collection should include a flow of information on gender-based violence among the various agencies concerned.

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Annex 1: Direct Cost Estimation Approach

A. Services

1. Healthcare

   - *Predominant approach: unit cost*

   - *Unit cost; number of visits and length of stay at hospital will vary for physical violence and sexual assault*

   1.1. Physical assault

   1.1.1. Outpatient cost: No. of visits [No. of victims] x physical violence prevalence rate x unit cost per visit

   1.1.2. Hospitalisation cost: No. of nights x No. of victims x physical violence prevalence rate x unit cost per night

   1.2. Sexual assault

   1.2.1. Outpatient cost: No. of visits [No. of victims] x physical violence prevalence rate x unit cost per visit

   1.2.2. Hospitalisation cost: No. of nights x No. of victims x physical violence prevalence rate x unit cost per night

2. Law enforcement

   - *Predominant approach: unit cost*

   - *Number of hours and number of law enforcement officials engaged will vary for domestic violence and sexual assault cases*

   2.1. Domestic violence

   2.1.1. Police cost – case registration to closure: [(No. of police personnel engaged for each case x No. of hours spent for each case) x number cases x wage per hour]

   2.1.2. Police cost – petrol: [(No. of police personnel engaged x No. of hours spent) x number cases x wage per hour] + cost of petrol car per visit

   2.1.3. Judiciary cost: (No. of judges engaged for each case x No. of hours spent for each case) x number cases x wage per hour

   2.2. Sexual assault

   2.2.1. Police cost – case registration to closure: [(No. of police personnel engaged for each case x No. of hours spent for each case) x number cases x wage per hour]

   2.2.2. Police cost – petrol: [(No. of police personnel engaged x No. of hours spent) x number cases x wage per hour] + cost of petrol car per visit

   2.2.3. Judiciary cost: (No. of judges engaged for each case x No. of hours spent for each case) x number cases x wage per hour

3. Social services

   - *Predominant approach: unit cost and proportional budget*

   - *Number of hours and number of officials involved may vary for physical assault and sexual assault cases*

   3.1. Physical assault

   3.1.1. Social service – counselling: [(No. of officials engaged for each case x No. of hours spent for each case) x number cases x wage per hour]

   3.1.2. Social service – shelter: total shelter expenditure x proportion of shelter service used for physical violence victims

   3.2. Sexual assault

   3.2.1. Social service – counselling: [(No. of officials engaged for each case x No. of hours spent for each case) x number cases x wage per hour]

3.2.2. Social service – shelter: total shelter expenditure x proportion of shelter service used for physical violence victims

4. Specialised services

- *Predominant approach: full operational budget*

4.1. Physical, sexual and psychological assault

4.1.1. 24-hour telephone service: full budget

4.1.2. Shelter: total shelter expenditure x proportion of shelter service used for physical violence victims

B. Personal Income

5. Loss of property

- *Predominant approach: unit cost*

5.1. Loss of personal property: No. of survivors (No. of women sought help) x % of survivors who reported lost property due to violence x average amount of reported loss

6. Loss of income

- *Predominant approach: unit cost*

6.1. Loss of personal income: No. of survivors (No. of women sought help) x % of survivors who reported lost income due to violence x average amount of reported income loss

7. Personal expenses incurred

- *Predominant approach: unit cost*

7.1. Personal expenses incurred: No. of survivors (No. of women sought help) x average amount of reported personal expenses

C. Lost Income

8. Irreversible (death)

- *Predominant approach: unit cost*

8.1. Irreversible cost: No. of deaths x per capita income of female workers

9. Reversible

- *Predominant approach: unit cost*

9.1. Temporary incapacity: No. of victims (survivors) x No. of days incapacitated x per capita per days income of female workers

9.2. Income lost due to disability: No. of victims (survivors) x No. of days incapacitated x disability pension

9.3. Disability pension: No. of victims x disability pension

9.4. Household work: No. of victims (survivors) x No. of days incapacitated x minimum wage

Annex 2: Economy-wide Cost Estimation Approach

One of direct cost of violence is loss of workdays leading to loss of income. Income loss leads to a reduction in private consumption expenditure, with subsequent negative impacts on commodity demand and supply of goods and services. As production of goods and services depend on purchases of other goods and services, as well as factors of production, loss of female works days (a direct impact of violence) may lead to further of loss of incomes indirectly due to the economy-wide effect (Figure A2.1). The researcher needs to use an economy-wide database or model to capture these indirect impacts of the direct cost of violence.

As argued in the main text, this can most conveniently be done utilising a social accounting matrix (SAM) framework. The SAM is a macroeconomic data set which captures the key interdependence between product markets (activities/commodities); factor markets (labour, capital, land etc.); and institutions (households, corporations, government etc.). The SAM is based on an input-output matrix (IOM); a SAM or IOM is available for most countries. The present researchers proposed to use a readily available country SAM or IOM or their modified versions to estimate the indirect/induced cost of violence against women. A stylised SAM structure is provided in Figure A2.2.

Figure A2.1 Personal income loss to GDP loss transmission mechanism
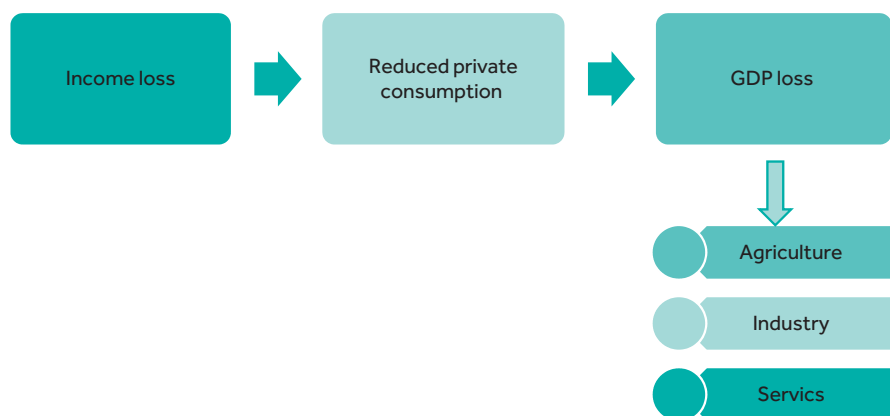
Figure A2.2 Stylised SAM framework

		ACT/COM	LAB		OF	HH	OI	Total
A stylised SAM framework								
			Male	Female				
ACT/COM		W	0	0	0	Cp	Coi	Y
LAB	Male	Lm	0	0	0	0	0	Yml
	Female	Lf	0	0	0	0	0	Yfl
OF		OF	0	0	0	0	0	Yfo
HH		0	Lmy	Lfy	OF	0	Troi	Yh
OI		0	0	0	OF	Ty	0	Yoi
Total		Y	Yml	Yfl	Yfo	Yh	Yoi	

ACT: activities; COM: commodities; W: inter-industry transaction matrix; Y: income
LAB: labour factor; OF: other factors; HH: households; OI: other institutions.

As indirect and induced costs would mainly be transmitted via loss of female work (productive) days, a SAM (as shown here) is a suitable framework to capture the indirect and induced cost of violence against women. The 'oceana blue' highlighted cells are accounts which are affected by the loss of female work (productive) days. Loss of female days is denoted by 'Lf'. This leads to a reduction in domestic outputs. Households are the sole recipient of labour income. Thus, a reduction in labour income leads to a reduction in household income and their consumption possibilities. A reduction in household expenditure (which is a major component of effective domestic demand) leads to fall in effective demand for commodities. This in turn triggers reduced supply, with the transmission mechanism continuing until it reaches a new steady start equilibrium.

Input-output matrix and social accounting matrix

A social accounting matrix (SAM) is an extension (or generalisation) of the input-output matrix by incorporating other parts of the economy – namely primary and secondary income distribution and institutions of an economy. More specifically, Input-output analysis involves constructing a table in which each horizontal row describes how one industry's total product is divided among various production processes and final consumption. Each vertical column denotes the combination of productive resources used within one industry. A table of this type (Figure A2.3) illustrates the dependence of each industry on the products of other industries: for

example, an increase in manufacturing output is also seen to require an increase in the production of power.

SAM is a square matrix which captures all the main circular flows (Figure A2.4) within an economy in a given period.

The input-output part of SAM captures productionlinkages between sectors that are determined by those sectors' production technologies. These linkages can be differentiated into backward and forward linkages. Stronger forward and backward production linkages lead to larger multipliers.

Backward production linkages are the demand for additional inputs used by producers to supply additional goods or services. For example, when electricity production expands, it demands intermediate goods like fuel, machinery and construction services. This demand then stimulates production in other sectors to supply these intermediate goods. The more input intensive a sector's production technology is, the stronger its backward linkages are.

Forward production linkages account for the increased supply of inputs to upstream industries. For example, when electricity production expands, it can supply more power to the economy, which stimulates production in all the sectors that use power. Thus, the more important a sector is for upstream industries, the stronger its forward linkages will be. Forward linkages are particularly important for the energy sector, as it provides key input into the majority of other sectors in the economy (Figure A2.5).

Figure A2.3 Input-output table

		Activity					Final demand				Total use
		A1	...	...	...	A24	C_p	C_g	I	EX	
Commodity	C1										
	..										
	..	Technology matrix (47 x 47)					Final demand				
	..										
	..										
	..										
	C23										
Value added	Compensation										
	Operating surplus	GDP (Income approach)					GDP (Expenditure approach)				
	Indirect taxes										
	Import										
	Total supply										

Figure A2.4 Basic structure of a SAM

		Expenditure columns							
		Activities C1	Commodities C2	Factors C3	Households C4	Government C5	Investment C6	Rest of world C7	Total
Income rows	Activities R1		Domestic supply						Activity income
	Commodities R2	Intermediate demand			Consumption spending (C)	Recurrent spending (G)	Investment demand (I)	Export earnings (E)	Total demand
	Factors R3	Value-added							Total factor income
	Households R4			Factor payments to households		Social transfers		Foreign remittances	Total household income
	Government R5		Sales taxes and import tariffs		Direct taxes			Foreign grants and loans	Government income
	Savings R6				Private savings	Fiscal surplus		Current account balance	Total savings
	Rest of world R7		Import payments (M)						Foreign exchange outflow
	Total	Gross output	Total supply	Total factor spending	Total household spending	Government expenditure	Total investment spending	Foreign exchange inflow	

Figure A2.5 Circular flow in an economy
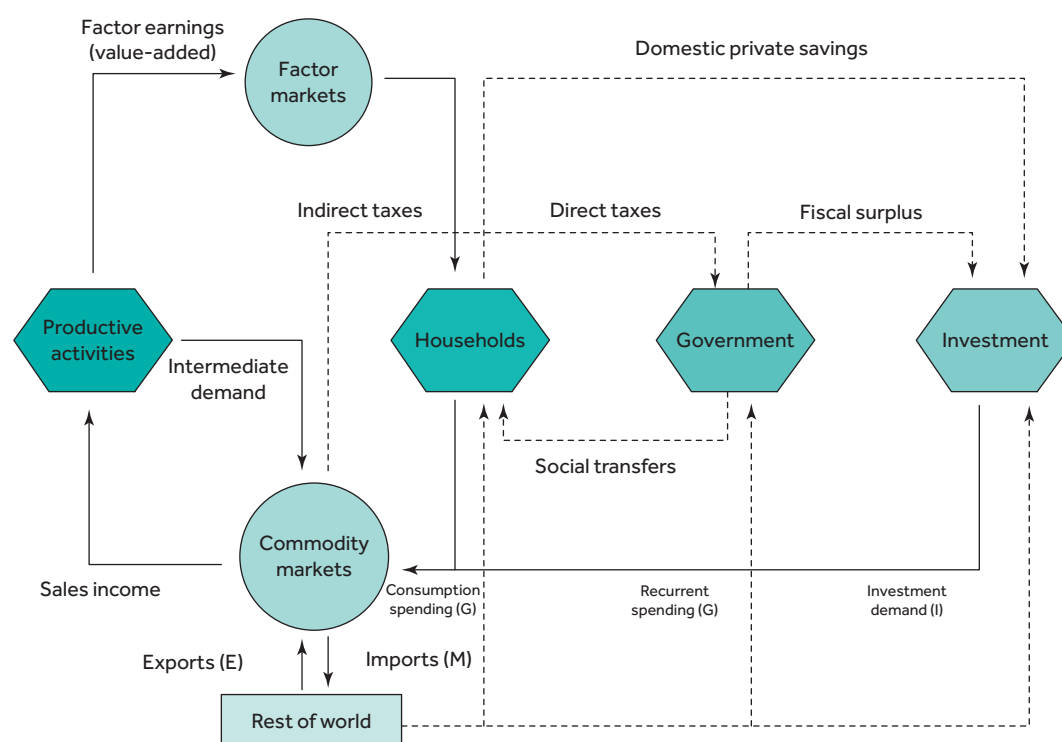
Source: Breisinger et al. (2009).

Methodology – description of social accounting matrix model

The move from a SAM data framework to a SAM model (also known as a multiplier framework) requires decomposing the SAM accounts into 'exogenous' and 'endogenous'. Generally, accounts intended to be used as policy instruments (for example, government expenditure, including social protection, investment and exports) are made exogenous and accounts specified as objectives or targets must be made endogenous (for example, output, commodity demand, factor return, and household income or expenditure). For any given injection into the exogenous accounts of the SAM, influence is transmitted through the interdependent SAM system among the endogenous accounts.

Table A2.1 Description of the endogenous and exogenous accounts and multiplier effects

Endogenous (y)	Exogenous (x)
The activity (gross output multipliers), indicates the total effect on the sectoral gross output of a unit-income increase in a given account, *i* in the SAM, and is obtained via the association with the commodity production activity account *i*.	
The consumption commodity multipliers, which indicates the total effect on the sectoral commodity output of a unit-income increase in a given account *i* in the SAM, is obtained by adding the associated commodity elements in the matrix along the column for account *i*.	Intervention into through activities ($x = c + i + g + e$), where $i = GFC + ST$ (GFCF) Household Consumption (c) Exports (e) Government Expenditure (g) Investment Demand (i) Inventory Demand (i)
The value-added, or GDP multiplier, giving the total increase in GDP resulting from the same unit-income injection, is derived by summing up the factor-payment elements along account *i*'s column.	

The interwoven nature of the system implies that the incomes of factors, households and production are all derived from exogenous injections into the economy via a multiplier process. The multiplier process is developed here on the assumption that when an endogenous income account receives an exogenous expenditure injection, it spends it in the same proportions as shown in the matrix of average propensities to spend (APS). The elements of the APS matrix are calculated by dividing each cell by the sum total of its corresponding column.

The economy-wide impacts of personal income loss are examined by changing the household consumption vector.

The shift from a 'data' SAM structure to a SAM multiplier module requires the introduction of assumptions and the separation of the SAM accounts into 'exogenous' and 'endogenous' components.[1,2]

The separation is needed to enter the system, allowing some variables within the SAM structure to be manipulated exogenously (via injection instruments) to assess the subsequent impacts on the endogenous accounts, as well as on the exogenous accounts.

Generally, accounts intended to be used as policy instruments are classified as exogenous and accounts specified a priory as objectives (or targets) are classified as endogenous. Two accounts are designated as endogenous accounts: 1) Production (production activities and commodities) account; 2) and Factors of Production account.

The exogenous accounts comprise: 3a Household (consumption), Government (expenditure, transfer, remittances); 4 Capital account of institutions (savings and demand for houses, investment demand, infrastructure and machinery and equipment); and 5 ROW transfers, remittances, export demand and capital. The SAM flows and the categorisation into endogenous and exogenous accounts are shown in Table A2.3.

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1   The WHO clinical and policy guidelines on responding to intimate partner violence and sexual violence against women are the international standard for health sector response to VAWG. See: https://www.who.int/reproductivehealth/publications/violence/9789241548595/en/
2   This methodology follows Pyatt, G and JI Round (1977), 'Social Accounting Matrices for Development Planning', *Review of Income and Wealth*, Series 23 No.4; Pyatt, G and JI Round (1979), 'Accounting and Fixed Price Multipliers in a SAM Framework', *Economic Journal*, No. 89; and Pyatt,

G and A Roe (1987), (eds.). The layout follows Alarcon, JV et al. (1984), *La Matriz de Insumo-ProductoAdaptadapara la Planificación de lasnecesidadesbásicas,* Ecuador 1975 y 1980, ISSPREALC, Quito; and Alarcon, JV et al. (1991), *The Social Accounting Framework for Development*, Gower House, Avebury.

Table A2.2 General SAM modular structure

		1a-PA	1b-CM	2-FP	3a-HH-OI	4-KHH-OI	5-ROW	TDD
1a	PA		$T_{1a,\,1b}$		0			Y_{1a}
1b	CM	$T_{1b,\,1a}$			$T_{1b,\,3}$	$T_{1b,\,4}$	$T_{1b,\,5}$	Y_{1b}
2	FP	$T_{2,\,1a}$					$T_{2,\,5}$	Y_{2}
3	HH-IO	$T_{3,\,1a}$	$T_{3,\,1b}$	$T_{3,\,2}$	$T_{3,\,3}$		$T_{3,\,5}$	Y_{3}
4	KHH-OI	$T_{4,\,1a}$			$T_{4,\,3a}$		$T_{4,\,5}$	Y_{4}
5	ROW		$T_{5,\,1b}$	$T_{5\,2}$	$T_{5,\,3}$	0	0	Y_{5}
	TSS	E_{1a}	E_{1b}	E_{2}	E_{3}	E_{4}	E_{5}	

Note: Where: by definition $Y_i = E_j$ and 1 Production (1a PA = Production activities and 1b CM = Commodities); 2 FP = Factors of Production; 3 HH-IO = Households and Other Institutions (incl. Government); 4 KHH-OI = Capital Account Households and Other Institutions (including government); 5 ROW = Rest of the World (current and capital account). Blank entries indicate that there are no transactions by definition.

SAM coefficients (A_{ij}) are derived from payment flows by endogenous accounts to themselves (T_{ij}) and other endogenous accounts as to the corresponding outlays ($E_i = Y_j$); similarly, the leak coefficients (B_{ij}) are derived from flows reflecting payments from endogenous accounts to exogenous accounts. They are derived in Table A2.5.

The multiplier analysis using the SAM framework helps us to understand the linkages between the different sectors and the institutional agents at work within the economy. Accounting multipliers are calculated according to the standard formula for accounting (impact) multipliers, as follows:

$$Y(t) = A\,Y(t) + X(t) = (I - A)^{-1}X(t) = M_a X(t)$$

Where:

t is time

Y is a vector of incomes of endogenous variables

X is a vector of expenditures of exogenous variables

A is the matrix of average expenditure propensities for endogenous accounts

$M_a = (I - A)^{-1}$ is a matrix of aggregate accounting multipliers (generalised Leontief inverse).

The aggregate accounting multiplier (M_a) is then further decomposed to separately examine the direct and induced effect. In order to generate the direct and induced effects, the M_a multiplier is decomposed using both multiplicative and additive forms.

Table A2.3 Endogenous and exogenous accounts

		1a-PA	1b-CM	2-FP	3a-HH-OI	3b-Gov	4-KHH-OI	5-ROW	TDD
1a	PA		$T_{1a,\,1b}$		0				Y_{1a}
1b	CM	$T_{1b,\,1a}$			$T_{1b,\,3a}$	$T_{1b,\,3b}$	$T_{1b,\,4}$	$T_{1b,\,5}$	Y_{1b}
2	FP	$T_{2,\,1a}$						$T_{2,\,5}$	Y_{2}
3a	HH-OI			$T_{3a,\,2}$	$T_{3a,\,3a}$	$T_{3a,\,3b}$		$T_{2,\,5}$	Y_{3}
3b	Gov	$T_{3b,\,1a}$	$T_{3b,\,1b}$		$T_{3b,\,3a}$	$T_{3b,\,3b}$		$T_{3a,\,5}$	
4	KHH-OI	$T_{4,\,1a}$			$T_{4,\,3}$			$T_{4,\,5}$	Y_{4}
5	ROW		$T_{5,\,1b}$	$T_{5,\,2}$	$T_{5,\,3a}$	$T_{5,\,3b}$	$T_{5,\,4}$	0	Y_{5}
	TSS	E_{1a}	E_{1b}	E_{2}	E_{3a}	E_{3b}	E_{4}	E_{5}	

Note: Where Endogenous: 1 Production (1a PA = Production Activities and 1b CM = Commodities); 2 FP = Factors of Production; 3a HH = Households and Other Institutions (excluding Government). Where Exogenous: 3b Government; 4 KHH-OI = Capital Account of Households and of Other Institutions (incl. government); 5 ROW = Rest of the World (current and capital account). Blank entries indicate that there are no transactions by definition.

Table A2.4 Endogenous and components of exogenous accounts

	PA	CM	FP	EXO	INCOME	Exogenous Accounts (EXO) used as injections Column Vectors
1a PA		$T_{1a\,1b}$		X_{1a}	Y_{1a}	$X_{1a} = 0$
1b CM	$T_{1b\,1a}$			X_{1b}	Y_{1b}	X_{1b} = Government Consumption Subsidies − Taxes + Exports + Gov. Investment (capital formation in infrastructure and machinery and equipment) + Gross Capital Stock formation
2 FP	$T_{2\,1a}$			X_2	Y_2	X_2 = Factor Remittances from ROW
3b-5 Leaks	L_{1a}	L_{1b}	L_2	$L_{3b-5} = X_{3b-5}$	Y_{3b-5}	3b = Aid to Government from ROW
EXPN	E_{1a}	E_{1b}	E_2	E_{3b-5}		Where $E_i = Y_j$
L_{1a} = Activity Tax				L_{3a} = Income Tax + Household Savings + Corporate Savings		
L_{1b} = Commodity Tax + Import Duty + Imports				$L_{3b-5}\,X_{3b-5}$ and Y_{3b-5} falls out of the model		
L_2 = Factor Remittances to ROW				Blank entries indicate that there are no transactions by definition.		

Note on injection: For any given injection into the exogenous accounts Xi (i.e., instruments) of the SAM, influence is transmitted through the interdependent SAM system among the endogenous accounts. The interwoven nature of the system implies that the incomes of factors, institutions and production are all derived from exogenous injections into the economy via a multiplier process. Multiplier models may also be built on the input-output frameworks. The main shortcoming of the IO model is that the feedback between factor income generation (value-added) and demand by private institutions (households) does not exist. In this case, the circular economic flow is truncated. The problem can be partly tackled by endogenising household consumption within the I-O framework; this is typically referred to as a 'closed I-O model'. In this case, the circular economic flow is only partially truncated. A better solution is to extend the I-O to a SAM framework, which captures the full circular economic flow derivation of SAM multipliers

From the above, it logically follows that the SAM model mainly provides answers to following basic issues:

- the impacts on the endogenous and exogenous accounts in a clear and differentiated manner;

- the technological structure of the sectors oriented towards the production of basic intermediate and final goods and services;

- the expenditure structures of factors of production, institutions and demand for goods and services of domestic and foreign origin;

- the identification of key sectors, commodities, factors of production, institutional accounts and basic needs in the economy and quantification of the main linkages (total and partial);

Table A2.5 Coefficient matrices and vectors of the SAM model

Account	1a – PA	1b – CM	2 – FP	3a ... 5 EXO	Income
1a – PA		$A_{1a,1b} = T_{1a,1b} / Y_{1b}$		X_{1a}	Y_{1a}
1b – CM	$A_{1b,1a} = T_{1b,1a} / Y_{1a}$			X_{1b}	Y_{1b}
2 – FP	$A_{2,1a} = T_{2,1a} / Y_{1a}$			X_2	Y_2
3a ... 5 Leaks	$B_{1a} = L_{1a} / Y_{1a}$	$B_{1b} = L_{1b} / Y_{1b}$	$B_2 = L_2 / Y_2$		
Expenditure	$E_{1a} = Y_{1a}$	$E_{1b} = Y_{1b}$	$E_2 = Y_2$		

- the dynamics of the production structure, factorial and institutional income formation;

- the effects of incomes of institutions and their impact on production via their corresponding demand;

- the intra, across or extra and inter-circular group effects, both in additive and multiplicative manner;

- how matching labour and investment requirements can be calculated;

- price changes on endogenous accounts arising out of endogenous account price changes, as well as exogenous account price changes;

- design simulations and alternative scenario and perform analysis; and

- it serves as the basis for development of computable general equilibrium.

The Commonwealth