

## Data sources and options for cost calculation

To implement the costing framework, information must be drawn from multiple sources, including the following:

- Primary data from existing statistical surveys, such as the demographic health survey implementing common module on domestic violence, Multi-Cluster Indicator Surveys, Labour Force Surveys, Living Standards Measurement Surveys (only available in Iraq and Morocco), Time Use Surveys, Iraq Women Integrated Social and Health Survey, census reports, ILO Global Wage Database;
- Budget information from key ministries;
- Project documents of international organizations and non-governmental organizations;
- Relevant documentation, reports and statistics to frame the study, including any dedicated prevalence studies as undertaken in some Arab countries.

For sources of information and a detailed description of the information required for cost calculation see table 1 below.

**Table 1. Sources of information for a costing framework**

<i>Sources of information</i>	<i>Indicators measured</i>
Multi-Cluster Indicator Survey	Attitudes towards wife-beating
Demographic Health Survey	Prevalence and frequency of spousal violence, women aged 15-49
UN Women Global Database on Violence <a href="http://evaw-global-database.unwomen.org/en/countries">http://evaw-global-database.unwomen.org/en/countries</a>	Injuries Health outcomes (women, children) Reproductive outcomes Mental health status Help-seeking Employment status Socioeconomic status
Labour Force Surveys, census reports and ILO Global Wage Database	Labour-force participation Sectoral distribution of employment Occupational distribution Wages/salaries
National Crimes Surveys UNODC <a href="https://www.unodc.org/gsh/en/data.html">https://www.unodc.org/gsh/en/data.html</a>	Homicides Number of women killed by intimate partner or family member Age profile, education, work status
Living Standards Measurement Surveys	Incidence of poverty Household expenditure on health, education, food, etc. Asset

<i>Sources of information</i>	<i>Indicators measured</i>
Time Use Surveys	<p>Time spent in formal-sector work</p> <p>Time spent on primary economic production for household, non-primary production and other work for income</p> <p>Time spent on unpaid domestic services for household use</p> <p>Time spent on unpaid care work for household members</p>
Primary survey of individual women focused on marital violence	<p>Prevalence of marital violence of ever married women (could also include engaged women)</p> <p>Frequency of violent behaviours</p> <p>Number of incidents of violence</p> <p>Help-seeking for incidents</p> <p>Out-of-pocket expenditures incurred due to violence</p> <p>Missed days of economic work (formal and informal sector): woman, husband, other family members</p> <p>Missed days of household domestic work and unpaid care work: woman, husband, other family members</p> <p>Missed days of schooling: children, women</p> <p>Exit out of labour market</p> <p>Exit out of education</p>
Recurrent budgets	<p>Health ministry</p> <p>Interior ministry</p> <p>Justice ministry</p> <p>Education ministry (primary and high education)</p> <p>Tourism ministry</p> <p>Culture ministry</p> <p>Religious affairs ministry</p> <p>Solidarity and social justice ministry</p> <p>National Council for Women</p> <p>National Council of Human Rights</p> <p>Youth ministry</p> <p>Media</p> <p>Other key ministries with a role in preventing or addressing violence against women</p>
Violence against women related project documents of international organizations working in specific countries	International cooperation ministry
Violence against women related project documents of main non-governmental organizations	Relevant non-governmental organizations in the country
Interviews with service providers and key agents in the government (violence against women focal points, finance unit in the institution)	To be decided depending on the methodology chosen

To estimate the direct and indirect tangible costs of marital violence for individual women and households, detailed and specific data are required. We see from the above table the Demographic Health Survey provides useful information to explore the health consequences of violence (in Iraq, the Woman Integrated Social and Health Survey is the equivalent of the Demographic Health Survey). However, these surveys neither explore the economic impacts of marital violence – in particular, the impact on individual women’s economic and domestic work – nor capture the out-of-pocket expenses incurred by women/households. While it may be possible to estimate the impact on productivity (and therefore, economic output) using Demographic Health Survey data, the economic impacts of violence on non-formal work would not be captured. This estimation would require data that provide sex-disaggregated information on productivity by health status. In the absence of such developed databases, a specific survey might be required on the experiences of violence and costs incurred by women and households. Information captured in such a targeted questionnaire is given below in table 2:

**Table 2. Information sought in targeted questionnaire**

<i>Type of violence</i>	
Marital violence (intimate partner violence)	Physical violence Sexual violence Psychological violence Economic violence Controlling behaviours
<i>Prevalence</i>	
Marital violence	Lifetime In the past 12 months
<i>Indirect costs</i>	
Missed days of remunerated work	Due to intimate partner violence Due to violence in public spaces
Missed days of non-remunerated work (household work)	Due to intimate partner violence Due to violence in public spaces
Missed days in education	Due to intimate partner violence Due to violence in public spaces
Missed days in children’s education	Due to intimate partner violence Due to violence in public spaces
<i>Direct costs</i>	
Access to services (number of services accessed in a year)	Health Transport Shelter Counselling Police – protection Legal aid – lawyer
Out-of-pocket expenses:	Health Transport
Personal expenses to access services	Shelter Counselling Police – protection Legal aid – lawyer Rehabilitation Children’s schooling
<i>Help-seeking behaviour</i>	

## A. COST CALCULATION USING INFORMATION COLLECTED IN WOMEN'S SURVEY

The formulas to calculate direct and indirect costs of intimate partner violence among married or engaged women, using the information collected in the questionnaire, are provided below.

### 1. Intimate partner violence/marital violence

IPV = psychological or physical or sexual or economic violence = 1

Lifetime prevalence (IPV > 0 in a lifetime)

Current prevalence (IPV > 0 in the past 12 months)

#### (a) Direct tangible costs

Out-of-pocket expenditures from individuals due to marital violence:

$$TOPC = \sum_i \sum_s \sum_t C_{ist}(S_s)(9)$$

Where TOPC is total out-of-pocket costs borne by women and their families,  $i$  is number of women experiencing violence,  $s$  is types of services,  $t$  is number of incidents reported in the survey,  $C_{ist}$  is cost to individual women  $i$  of service  $s$  at time  $t$ , and  $S_s$  is service  $s$ .

#### (b) Indirect costs

Opportunity cost: cost of workdays lost due to intimate partner violence. In this category, we include loss of personal income due to missed workdays, and loss of household work:

$$COWDL = \sum_i \sum_j \{W_{ij}[\sum_t L_{ijt}] + \sum_t W_{ij}^*[\sum_t L_{ijt}^*]\}(10)$$

Where  $j$  is woman respondent,  $i$  is household, COWDL is cost of workdays lost,  $W_{ij}$  is market wage rate of member  $j$  in household  $i$ ,  $L_{ijt}$  is days lost from market work after incident  $t$ ,  $W_{ij}^*$  is imputed wage rate of member  $j$  in household  $i$  for non-market work, and  $L_{ijt}^*$  is days lost from non-market work after incident  $t$ .

The average wage rate, as reported by the individual woman missing work, is used to calculate the income loss due to absence. This rate is also imputed to estimate the value of non-remunerated household work. An alternative method to impute the value of this work is to use the wage or salary of specialists performing equivalent work (chefs, teacher, child minder, etc.)

Opportunity cost: schooldays lost. This formula can be used for calculating:

- schooldays lost by children due to intimate partner violence
- schooldays lost by women experiencing marital violence

Cost of children's lost schooldays:

$$CODL = \sum_i HH (\sum_j c_j [\sum_t LS_{jt}]) (11)$$

Where CODL is cost of schooldays,  $C_j$  is total cost of one schoolday for child  $j$  in  $HH_i$  (can include fees, books, transport and other fees) and  $LS_{jt}$  is days lost from school by child  $j$  in  $HH_i$  after incident  $t$ .

Cost of women's lost schooldays:

$$CODL = \sum_i \sum_j \{C_{ij}[\sum_t LS_{it}]\} (12)$$

Where CODL is cost of schooldays,  $C_{ij}$  is total cost of one schoolday for woman  $j$  in  $HH_i$  and  $LS_{jt}$  is days lost from school by girl or woman  $j$  in  $HH_i$  after incident  $t$ .

## B. DIRECT COSTS CALCULATION AT THE COMMUNITY LEVEL

There are four options when estimating direct costs at community level, depending on the depth and quality of available data. The following chart summarizes the advantages and disadvantages of each option.<sup>1</sup>

	<i>Advantages</i>	<i>Disadvantages</i>
<p><b>Option 1</b> Calculate total governmental cost of preventing and addressing violence against women using national strategy or national action plan as basis, if available</p>	<p>Budgetary information more accurate and accessible: national action plans will include details that every ministry and concerned institution will dedicate to prevent and address violence against women</p> <p>Comprehensive: estimate based on identifying all programmes and activities undertaken by government agencies</p>	<p>Timing: costing study would have to be undertaken to align with budgetary year. Data points must be over several years to obtain budget estimates and actual expenditures on services and programmes</p> <p>Incomplete: does not consider services by non-governmental organizations and international non-governmental organizations outside government budgets. May lead to significant underestimates if government services are minimal</p>
<p><b>Option 2</b> Estimate total governmental cost of preventing and addressing violence against women</p>	<p>Easiest cost calculation: calculating direct costs will be easier and faster. It will not be necessary to do budget estimations</p>	<p>Challenges analysing the information: specifically, calculating direct costs in each institution. Currently, budget information in each ministry does not track committed resources for preventing and addressing violence against women</p> <p>Time consuming: the research team will face difficulties collecting budget information. It will be necessary to do interviews with gender focal points and finance associated in each institution to collect required data</p>
<p><b>Option 3</b> Estimate total direct costs through a national survey of all facilities providing services (prevention, provision, prosecution)</p>	<p>Reliable: as unit cost for each facility is derived from actuals costs incurred, it will be a more accurate reflection of the burden on facilities</p> <p>Provides information on service gaps: a survey will provide information on gaps in the types of services and data information systems</p> <p>Comprehensive: includes all facilities and not just government providers. So costs of non-governmental organizations and international non-governmental organizations can be included</p>	<p>Incomplete information: no systematic culture of recording cases of violence against women in institutions.<sup>2</sup> Only a few service providers, such as shelters, keep the records of victims accessing the service, so information may be rough estimates</p> <p>Preventative activities maybe missed: this approach would track the resources involved in providing services, but preventive activities will be outside the scope of the analysis</p> <p>Underestimates: as many women tend not to seek help, costs could be underestimated. Utilization rate derived from the survey could be an underestimate and lead to an aggregate direct cost being underestimated</p>

<sup>1</sup> Nata Duvvury and Marga Ozonas, "Options for costing study in Egypt" (unpublished, 2014).

<sup>2</sup> In a Viet Nam survey, police, courts, health facilities and Women's Union had limited data on service provision costs, making estimates virtually impossible. See Nata Duvvury, Patricia Carney and Nguyen Huu Minh, *Estimating the costs of domestic violence against women in Viet Nam* (Hanoi, UN Women, 2012).

	<i>Advantages</i>	<i>Disadvantages</i>
<b>Option 4</b> Estimate direct costs using secondary data on unit costs. For example, health costs can be derived using Demographic Health Survey data on injury and unit costs of treatments by type of injury	No additional costs for data collection: analysis can be done if access to health data costs is available. Only cost would be analysis time Reliable: estimate would be rigorous as unit costs may more accurately reflect full economic costs involved in providing services	Availability of unit costs: not all services may have detailed unit costs. For example, law enforcement or judiciary

Cost calculation using budget information (see table 3, below): options 1 and 2 are based on a top-down proportional approach (derived from an annual budget). The first requires more detailed information about programmes and activities, while the second tracks a total amount, without disaggregating the information by activities. These options can also be applied to calculating the costs of non-governmental organisations and international non-governmental organisations.

**Table 3. Cost calculations using budget information**

<i>Direct tangible costs</i>	
Governments	<p>Total government-direct tangible cost (TG-DTC)</p> <p>Option 1 <math>TG-DTC = \sum_i \text{annual expenditure } i (P1 + P2 + P3)</math></p> <p>Option 2 <math>TG-DTC = \sum_i \text{annual budget } i (\text{activities oriented to prevent and address violence against women})</math></p> <p>i = key ministry or governmental institution with a role in preventing and addressing violence against women P1 = activities to prevent violence against women and girls P2 = provision of services for victims of violence and perpetrators P3 = prosecution</p> <p><i>Source:</i> National budgets, national action plans and interviews</p>
Non-governmental organisations and international non-governmental organisations	<p>Total non-governmental organisations -direct tangible cost (TNGO-DTC)</p> <p>Option 1 <math>TNGO-DTC = \sum_i \text{budget } i (P1 + P2 + P3) + \sum OPE</math></p> <p>Option 2 <math>TNGO-DTC = \sum_i \text{budget } i (PRODOC) + \sum OPE</math></p> <p>i = NGO P1 = activities to prevent violence against women and girls P2 = provision of services for victims of violence and perpetrators P3 = prosecution OPE = out-of-pocket expenses of service providers PRODOC = project document (budget)</p> <p><i>Source:</i> PRODOC and interviews</p>

## 1. Option 1

Identifying resources oriented to prevent violence, and others oriented to services and prosecution, will help obtain a baseline that can be used to assess (through a monitoring and evaluation tool) the future effectiveness of policies and interventions to prevent violence against women.

For this option, detailed information about programmes, activities and interventions of governmental institutions is required.

## 2. Option 2

This formula is appropriate if budget information about programmes and activities is unclear. It estimates the total amount each government institution dedicates annually to address violence against women. In many cases, it will be necessary to estimate the proportion of salaries and operating costs, such as transport and materials.

This method is based on estimation and assumption, and requires interviews with key agents in institutions, such as a violence against women focal point, and someone with knowledge of the institution's finances. The result will approximate the resources each institution is dedicating.

## 3. Highlights

With both options, it is necessary to identify the financing source; that is, the recurrent budget (national resources), or a development budget (funds from donors). As this methodology tracks funds from donors, it is important to avoid double accountability.

While gender-responsive budgeting is not complicated, applying it in countries is often difficult; not all government budgets are organized as performance budgets, constructed along programme lines. In Egypt, which undertook a costing study in 2015, researchers were unable to develop any meaningful estimate of budgetary allocations to violence programmes across ministries and departments.<sup>3</sup> There was little awareness among ministerial staff of gender-responsive budgeting as a tool, responsibility for specific tasks in the national strategy on violence was not clear to government stakeholders, and budgets were often presented as functions rather than programmes. This meant it was difficult to discern the proportion of various cost-line items, such as staff salaries, allocated to violence-related activities. The study focused only on extrapolating costs at the household level to derive national macro costs.

### C. ESTIMATING COSTS THROUGH BUSINESS SURVEY

Another option – particularly in an economy where women's participation in the formal economy is high – is to survey employees to estimate the loss of economic output for the business sector. This can be similar to the individual woman's survey, with additional questions on presenteeism alongside standard ones on absenteeism. For business, presenteeism – arriving late, leaving early, lack of focus, difficulty in completing tasks, reduced productivity, accidents – is a recognized problem affecting the output and reputation of firms. A survey would provide details on the impact of marital violence on presenteeism.

Economic impacts of marital violence can be gleaned from female and male employees, on victim and perpetrator. The survey can also capture so-called bystander effects: the time colleagues spend assisting a survivor and the mental health effects on bystanders resulting from others' presenteeism.<sup>4</sup>

---

<sup>3</sup> National Council for Women and UNFPA, *The Egypt economic cost of gender-based violence survey (ECGBVS) 2015* (Cairo, UNFPA, 2016).

<sup>4</sup> See Aristides Alfredo Vara Horna, "Violence against women and its financial consequences for businesses in Peru", Executive summary, English edition (Lima, Peru, Deutsche Gesellschaft für Internationale Zusammenarbeit and University of San Martin de Porres, 2013). Available from [http://www.learningtoendabuse.ca/sites/default/files/The%20Impacts%20of%20Violence%20against%20Women\\_Financial%20Consequences\\_Peru\\_1.pdf](http://www.learningtoendabuse.ca/sites/default/files/The%20Impacts%20of%20Violence%20against%20Women_Financial%20Consequences_Peru_1.pdf).

The indirect cost of absenteeism and presenteeism can be estimated using the following equation:

$$COWDL = \sum_i \sum_j \sum_k \left\{ W_j \left[ \sum_t L_{ijt} \right] + W_k \left[ \sum_t L_{ikt} \right] \right\} + \sum_i \sum_j \sum_k \left\{ W_j \left[ \sum_t \left( \frac{q_j}{N} \right) \right] + W_k \left[ \sum_t \frac{q_k}{N} \right] \right\} + \sum_i \sum_{fc} \sum_{mc} \left\{ W_{fc} \left[ \sum_t \left( \frac{q_{fc}}{N} \right) \right] + W_{mc} \left[ \sum_t \frac{q_{mc}}{N} \right] \right\} \quad (13)$$

Where  $W_j$  is the wage of  $j$ th woman,  $W_k$  is the wage of the  $k$ th man,  $W_{fc}$  is the wage of female colleague and  $W_{mc}$  the wage of male colleague.  $L_{ijt}$  and  $L_{ikt}$  represent the days lost by women and men employees due to marital violence,  $q_j$  and  $q_k$  represent the hours lost due to presenteeism by women and men employees due to marital violence after incident  $t$ , and  $q_{fc}$  and  $q_{mc}$  represent the hours lost due to presenteeism of colleagues assisting survivors of marital violence after incident  $t$ .

The direct costs incurred by businesses providing programmes for support services or transfers to access other services can be estimated as:

$$BDC = \{(wL + rK + p * RM)\} + \sum_i \overline{TC}_i * N_j \quad (14)$$

Where BDC is business direct costs,  $wL$  represents staff cost,  $p * RM$  represents the material costs,  $K$  represents the capital investment for infrastructure and equipment,  $r$  is the discount rate,  $TC_i$  is the average transfer made to access service  $i$ , and  $N_j$  represents the number of women accessing services within the business or transfer payments.

#### D. ESTIMATING THE NATIONAL OR MACRO COSTS OF MARITAL VIOLENCE

Three ways to calculate the total costs of marital violence are proposed below:

---

##### Total costs

---

(1) direct tangible costs ( $\Sigma$  expenditure by individuals +  $\Sigma$  expenditure by governments +  $\Sigma$  expenditure by NGOs +  $\Sigma$  expenditure by international organizations +  $\Sigma$  expenditure by businesses) + macro estimate of output loss + macro estimate of productivity loss

(2)  $\Sigma$  direct costs +  $\Sigma$  indirect costs (aggregation based on the costing equations given above)

(3)  $\Sigma$  direct cost +  $\Sigma$  multipliers of different production sectors

---

In the three cost calculations, it is necessary to include the results of the previous sections:

- Survey information
- Budget information
- Information from international organizations and non-governmental organizations
- Business survey information estimating output loss

An alternative to simple aggregation of costs at different levels is an analysis to estimate the multiplier effect of violence throughout the economy (total cost 3 in the above box). A method proposed by Raghavendra,



Duvvury and Ashe (2017)<sup>5</sup> explores the effects of marital violence on different sectors of the economy; the output loss in each sector and the multiplier effect due to the intermediate demand across sectors. It estimates not only the loss due to violence in a particular sector, but the indirect effect on other sectors that use the outputs. For example, the method allows an estimation of the direct output loss in the agriculture sector due to missed workdays, and the resulting losses in other sectors that use agricultural products.

For this analysis, information is required on the unit costs of missed work by women and men, along with a social accounting matrix. This matrix is a representation of a macroeconomic system that incorporates a considerable level of information about the transfers, transactions and relationships between macro- and meso-level economic categories or accounts.<sup>6</sup> In the absence of the social accounting matrix, it may be possible to use the input-output tables that show the interaction between all producing sectors but may not include the labour input in each subsector.

---

<sup>5</sup> Srinivas Raghavendra, Nata Duvvury and Sinead Ashe, “Macroeconomic loss due to violence against women: the case of Viet Nam”, in *Feminist Economics* (forthcoming).

<sup>6</sup> Graham Pyatt and Jeffery I. Round, eds, *Social Accounting Matrices: A Basis For Planning* (Washington, D.C., World Bank, 1985).