Chapter 8

Estimated Cost of VAWG
in Seychelles

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8.1 Seychelles summary findings

The framework used to estimate the economic cost of VAWG has been numerically specified to 2016 data and parameters, since a majority of relevant data and GVB parameters were found for that year from the national baseline survey (Gender Links 2016). The main finds are summarised in Table 8.1.

Total cost

The estimated total cost of VAWG in Seychelles under the *typical case* is 235.7 million Seychelles rupees (SCR) (or 1.22% of 2016 GDP). This comprises an estimated direct cost of SCR 205.8 million (1.07% of GDP) plus an economy-wide indirect cost of SCR 29.9 million (0.16% GDP).

Under the full coverage case, the simulated (or derived) number of VAWG victims is based on population data that deems the number of women in the age

Table 8.1 Summary of cost of VAWG (Seychelles)

Cost categories	Typical case		Full coverage case	
	Million SCR	% of 2016 GDP	Million SCR	% of 2016 GDP
A. Direct cost	205.7	1.066	507.5	2.628
Services cost	190.0	0.984	267.7	1.386
Healthcare	115.9	0.600	115.9	0.600
Law enforcement and the judiciary	9.7	0.050	59.2	0.306
Social and specialised services	0.7	0.003	3.8	0.020
Learning time loss (education)	57.1	0.296	57.1	0.296
Personal cost	6.7	0.035	31.7	0.164
Income lost	15.8	0.082	239.8	1.242
B. Economy-wide cost (indirect and induced)	29.88	0.155	385.68	1.997
Agriculture	*4.65*	*0.024*	*60.03*	*0.310*
Industry	*11.86*	*0.061*	*153.05*	*0.790*
Services	*13.37*	*0.069*	*172.59*	*0.890*
C. Total cost (direct + economy-wide)	**235.7**	**1.221**	**893.13**	**4.625**

Note: SCR = Seychelles rupee.

*cohort between 18 and 64 in 2016 to be 31,*103 (National Bureau of Statistics 2016). Using this number – 31,103 – and a VAWG prevalence rate of 30 per cent (Gender Links 2016), the number of survivors in the full coverage case is estimated to be 9,331 (i.e. 31,103 × 0.3). By comparison, the number of survivors as reported in official administrative data is 609. As a result, estimated total cost under the full coverage case is substantially higher than in the typical case.

The total cost under the *full coverage case* is estimated as SCR 893.1 million (or 4.63% of GDP). This is made up of estimated direct cost of SCR 507.5 million (2.62% of GDP) and the economy-wide indirect cost of SCR 385.7 million (2% 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, the cost of healthcare turned out to be largest with SCR 115.9 million (0.6% of GDP). Learning time lost in primary school (which is not reported in most other economic cost of VAW studies) is also high, estimated at SCR 57.1 million (0.3% of GDP). Therefore, the combined cost for the social sector is significant at around 0.90 (i.e. 0.60 + 0.30) per cent of GDP, with subsequent effects on the quality of human resources and productivity. Costs for law enforcement and social/specialised services are estimated SCR 9.7 million and SCR 0.7 million respectively. The *estimated total cost of services is SCR 190 million (1% of GDP).* The estimated personal cost is SCR 6.7 million. Income loss due to the irreversible factor (VAW-related deaths) and the reversible factor (temporary incapacity to carry out paid work and household work) is estimated at SCR 15.8 million (0.08% of GDP) under the typical case.

- *Direct cost (full coverage case):* Costs of the two major cost derivers found in the typical case – healthcare services and learning time lost (education) – have been kept unchanged under the full coverage case, since they are based on supposedly 'full coverage' data. Thus, the costs for law enforcement, social services, specialised services, personal cost and income lost are re-estimated under the full coverage case. Costs of law enforcement increased to SCR 59.2 million. Cost of social/specialised services together are estimated at SCR 3.8 million. The estimated personal cost is SCR 31.7 million.

  The most dramatic increase is found for income loss under the full coverage cost compared to the typical case, due to the higher

number of simulated VAW-related deaths which is 12 (compared to 1 in typical case) and the number of VAW survivors unable to attend work being 9,331 compared to only 609 under the typical case. Income lost increased to SCR 239.8 million in the full coverage case. Total direct cost under the full coverage case is SCR 507.5 million (2.63% of GDP). This estimate suggests an increase of about 2.5 times under the full coverage cost compared to the typical case.

Economy-wide indirect cost

A data SAM for Seychelles was developed for 2016 using a 1999 IOM and other required national accounts data for 2016 (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 GDP through the SAM, the 2016 consumption values were adjusted downward for each of the activities according to their shares for 2016. Following this approach, two consumption shocks were set up – one for the typical case and other for the full coverage case. These shocks were 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 is SCR 15.8 million. Thus, household (private consumption) is reduced by 15.8 to simulate the impact on domestic output. Simulated output loss under the 'typical' case is SCR 29.8 million (0.16% of 2016 GDP). The services sector is found to be most affected among the three broad sector categories with a bill of SCR 13.4 million. The output loss for the industry sector is simulated at SCR 11.8 million, with other manufacturing and food processing bearing the major loss. Agriculture is least affected, with an output loss of 4.7 million SCR.

- **Full coverage case:** The income loss under the 'full coverage' case is SCR 239.8 million. Household (private consumption) is thus reduced by SCR 239.8 million to simulate the impact on domestic output. Simulated output loss under the 'full coverage' case is SCR 385.7 million (2% of 2016 GDP). The services sector is the most affected among the three broad sector categories, with a bill of SCR 172.6 million. The output loss for the industry sector is simulated at SCR 153.1 million. Agriculture is least affected, with an output loss of SCR 60 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.

8.2 Typical case (micro level)

Estimated direct cost of VAW in Seychelles 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' is SCR 205 million or 1.066 per cent of 2016 GDP* (Table 8.1). A breakdown of direct cost by the three cost categories (services, personal expenses, income lost) suggests that highest cost is incurred for various services. Cost incurred for services is 0.95 per cent of GDP. Income lost due to temporary incapacity (i.e. because of women's inability to attend work or perform household activities) is estimated at 0.0965 per cent of GDP. Personal expenses accounts for about 0.035 per cent of GDP.

- The share of cost by the three categories in total direct cost reveals overwhelming dominance of the services component. This alone accounts for almost of 89.1 per cent of total direct cost. The shares of other two categories – income lost and personal expenses – are 7.7 per cent and 3.2 per cent respectively.

The multiplier model based on the 2016 SAM is used to estimate the indirect cost of the violence. The SAM structure with 'endogenous' and 'exogenous' accounts is presented in Figure 8.2.

Data SAM 2016 is converted into a multiplier model by partitioning the SAM into endogenous account (i.e. the 16 × 16 activity matrix) and exogenous

Figure 8.1 Estimated direct cost by broad cost categories (typical case)
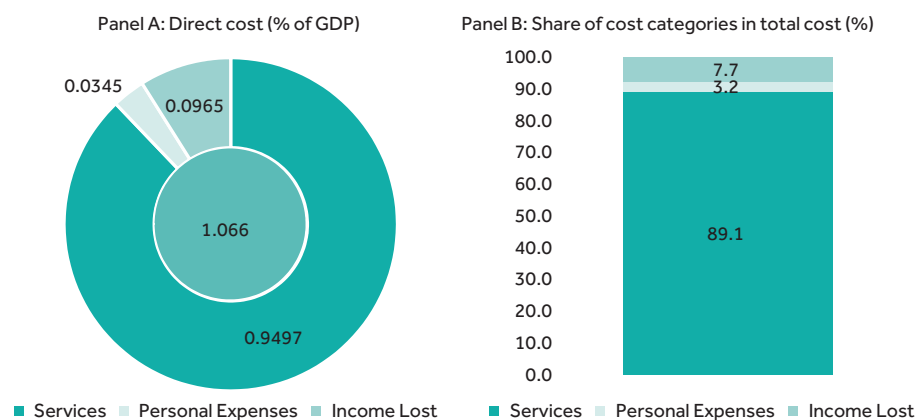
Source: Costing framework.

Figure 8.2 Structure of Seychelles SAM multiplier model

		Activity					Factors		Institutions				Total use
		A1	...	...	...	A16	LAB	CAP	HH	GoV	SAV	RoW	
Commodity	C1	Activity matrix (16 x 16) (Endogenous)					(Exogenous)						
	...												
	...												
	...												
	C16												
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.
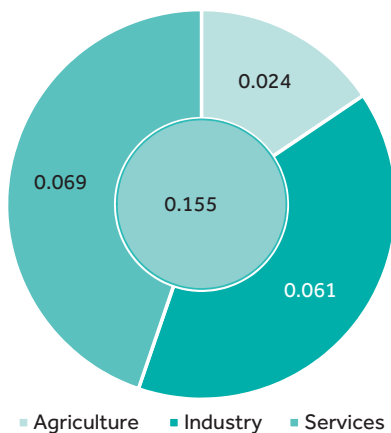**Source:** Costing model.

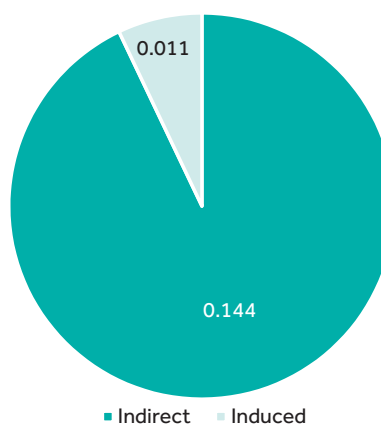account (i.e. factor account and final demand matrix – which contain the private consumption vector).

Income lost is estimated at SCR 15.8 million at 2016 prices (see Table 8.1). The SCR 15.8 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 is adjusted downward by SCR 15.8 million, preserving the consumption shares by the 16 commodities. The changed final demand due to the reduced private consumption vector is applied to the multiplier matrix to estimate the economy-wide cost of the VAWG (Figure 8.3).

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

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

0.024
0.069
0.155
0.061

■ Agriculture ■ Industry ■ Services

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

0.011
0.144

■ Indirect ■ Induced

The estimated economy-wide (indirect cost) under the 'typical case' is found to be 0.155 per cent of GDP. Among the three broad activities of the economy (agriculture, industry, services), the largest impact is recorded for services at 0.069 per cent of GDP. The estimated GDP loss for industry and agriculture activities are 0.061 per cent and 0.024 per cent respectively. The estimated indirect cost of 0.144 per cent of GDP substantially outweighs the induced cost of 0.011 per cent of GDP.

8.3 Full coverage case (macro level)

The full coverage case estimates are simulated using the parameters of the typical case along with age cohort population data (i.e. in this case, the female population aged between 18 and 64).

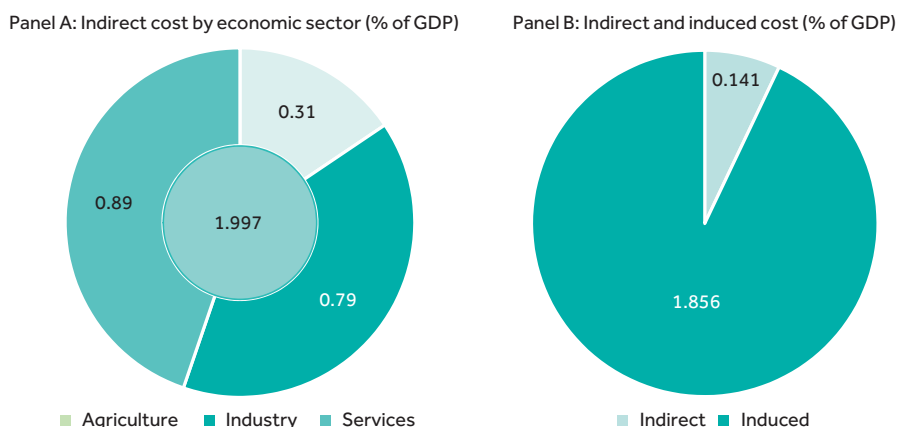*Estimated direct cost* under the 'full coverage case' is presented in Figure 8.4.

- Estimated direct cost under 'full coverage case' is SCR 507.5 million or 2.628 per cent of 2016 GDP (Table 8.1) – more than 2.5 times the cost found in the 'typical case'. A breakdown of direct cost by three cost categories (services, personal cost, income loss) suggests that highest cost is associated with income lost (as opposed to various services found in the 'typical case'). Income loss due to temporary incapacity (i.e. inability to attend work or perform household activities) is estimated at 1.242 per cent of GDP. Cost incurred for services is now 1.222 per cent of GDP – not substantially higher than the cost of services reported in the 'typical case' (i.e. 0.95%). This is because the health services cost as well as the learning time

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 (%)
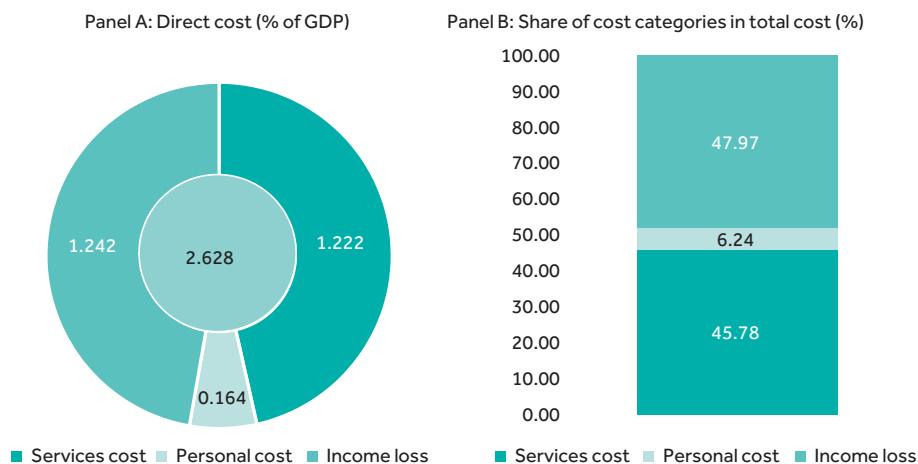
Source: Costing model.

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)

Panel A values: 0.31, 0.89, 1.997, 0.79
Legend: Agriculture, Industry, Services

Panel B values: 0.141, 1.856
Legend: Indirect, Induced

Source: Multiplier model.

lost in the 'typical case' are based on supposedly 'full coverage data'. Personal expenses accounts for about 0.164 per cent of GDP under the 'full coverage case'.

- The share of cost by the three categories in total direct cost reveals dominance of income loss – with almost a 50 per cent share. Cost of services now accounts for about 46 per cent of total direct cost – substantially lower than reported in the typical case (i.e. 89.1%). The share personal expense is 6 percent.

Estimated income loss under the 'full coverage case' is estimated at SCR 239.8 million at 2016 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 is applied to the multiplier matrix (as explained above) to estimate the indirect cost of the VAWG in Seychelles.

The estimated economy-wide cost under the 'full coverage case' is found to be 1.997 per cent of GDP. Among the three broad activities of the economy (agriculture, industry, services), the largest impact is recorded for services at 0.89 per cent of GDP. The estimated GDP loss for industry and agriculture activities is 0.79 per cent and 0.31 per cent respectively. The estimated Indirect cost of 1.856 per cent of GDP again substantially outweighs the induced cost of 0.14 per cent of GDP.

Reference

Gender Links (2016), 'Gender Based Violence: National Baseline Study in Seychelles', Johannesburg, South Africa, December.