

# CRIME AND VIOLENCE

Cost-benefit analysis of propose interventions to reduce intimate partner violence in Andhra Pradesh

Cost-Benefit Analysis

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# Cost-benefit analysis of proposed interventions to reduce intimate partner violence in Andhra Pradesh

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Andhra Pradesh Priorities  
An India Consensus Prioritization Project

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## Academic Abstract

Intimate partner violence (IPV), the most common form of violence experienced by women globally, is defined as sexual, physical and emotional violence by a husband or partner. According to the National Family Health Survey in 2015-16, 29 per cent of Indian women reported experiencing some form of violent behavior by their husband. Government response to IPV has been slow given how deeply embedded it is within social norms and cultural practices. The most significant response has been the enactment of the Protection of Women from Domestic Violence Act, 2005. Despite nearly 10 years of implementation, evidence of the effectiveness of this law is fragmentary. Notwithstanding a few pieces of evidence of effectiveness from the legal point of view, there has been no systematic evaluation of the intervention in India. This paper proposes two successful interventions in South Africa and Uganda, and assesses potential benefit to cost if these interventions were implemented in Andhra Pradesh.

## Policy Abstract

### The Problem

Intimate partner violence (IPV), the most common form of violence experienced by women globally, is defined as sexual, physical and emotional violence by a husband or partner. According to the National Family Health Survey in 2015-16, 29 per cent of Indian women reported experiencing some form of violent behavior by their husband. Government response to IPV has been slow given how deeply embedded it is within social norms and cultural practices. The most significant response has been the enactment of the Protection of Women from Domestic Violence Act, 2005. This law is the first comprehensive legal response to domestic violence and provides for security of residence for the woman, protection from the abuser and support to women for medical examination, legal aid, and secure shelter through Protection Officers and NGOs.

Despite nearly 10 years of implementation, evidence of the effectiveness of this law is fragmentary. The few available assessments suggest that there are significant gaps in implementation with lack of clarity within the judiciary about interpretation of specific clauses of the Act (Lawyers' Collective, 2013) inadequate budget allocations for establishing the required infrastructure (Jhamb, 2011) and lack of awareness about the law among duty bearers (judiciary, protection officers, and civil society) as well as women more broadly (Jaising, 2014). Notwithstanding a few pieces of evidence of effectiveness from the legal point of view, there has been no systematic evaluation of domestic violence interventions in India. This paper proposes two successful interventions in South Africa and Uganda, and assesses potential benefit to cost if these interventions were implemented in Andhra Pradesh.

### Intervention 1: Self Help Group-Based Intervention for Combating Violence Against Women (SHGIVAW)

#### Overview

This Intervention is a four-year clustered-randomised control trial based on the IMAGE project conducted in South Africa that combines microfinance program with participatory

training on domestic violence, gender norms, and sexuality. The rationale for combining the microfinance and the participatory learning component was that the programmes that provides both the means (income) and the knowledge (empowerment) to improve household well-being and may serve as the stimulus for wider mobilisation around pervasive issues like violence against women. The benefits of such mobilisation in many public health issues have been well documented in the literature.

## **Implementation Considerations**

The proposed SHGIVAW intervention can be considered by integrating the participatory training and learning component in some of the existing self-help group and/or microfinance schemes such as Streenidi or Vaddi Leni Renualu etc., which are being implemented as part of the Indira Kranthi Patham programme in Andhra Pradesh. The target population of the SHGIVAW intervention is females between 15-59 years, who are below the poverty line. Although, the IMAGE study in South Africa was targeted towards women aged 18 and above, in our view, this microfinance intervention should be targeted to women aged 15-59 years. The inclusion of young women from age 15 is justified in the context of Andhra Pradesh where the likelihood of them getting married is high.

The four-year intervention would be delivered as follows: a two-year trial period involving a certain number of participants followed by a two-year scale-up, which would involve additional participants in the training component. It is recommended that the intervention can be first tested in mandals that have functioning Social Action Committees to ensure that the messages within the SHG groups are transmitted to the broader community to reinforce the positive impacts of gender transformative learning among SHG participants.

## **Costs and Benefits**

### **Costs**

The cost of the two-year trial period to reach 855 participants in South Africa stood around \$43 per person and to reach an additional 2,598 clients during the scale-up, the cost was \$13 per person. As this study proposes to target 1.67 million women in Andhra Pradesh we took the cost of scale up in our estimation and is equivalent to INR 847.86 in 2018 exchange rate per person.

## Benefits

The evaluation studies of the SHGIVAW intervention estimated a 55% reduction in IPV at the end of the intervention period. Furthermore, the benefits were estimated to last for, at least, another four years. The reduction in IPV leads to both health benefits and economic benefits. The health benefits include a reduction of a disease burden attributable to exposure to interpersonal violence. Furthermore, the health benefits should also see a reduction in both the embedded risk of death from each episode and the pain and suffering of living with interpersonal violence. The economic benefits don't simply stop at the level of individual, but it also impacts the overall economy. Thus, the total benefit is estimated to be approximately Rs 3073 crores and includes both the economic and health benefits, which is encapsulated in the estimated BCR ratios of the intervention.

## Intervention 2: Community Mobilisation-Based Intervention for Combating Violence Against Women and Empowerment of Women (CMBIVAW)

### Overview

This intervention is based on the SASA! project, which is a community mobilisation intervention seeking to change community norms and behaviours that result in gender inequality, violence and increased HIV vulnerability for women. The SASA! approach seeks to change individuals' attitudes, community norms and structures, by supporting entire communities through a phased process of intervention. SASA! meaning 'Now' in Kiswahili, is an acronym for the four phases of the approach—Start, Awareness, Support, Action. Through each of these stages, the SASA! materials provide the framework for the delivery of mutually reinforcing messages delivered through both formal and informal sources. Thus, community members are repeatedly exposed, either directly or indirectly (for example through other community members who have attended activities) as the intervention gains momentum. Through this process, new ideas, attitudes and norms that promote more equitable relationships diffuse throughout the community and behaviours and community responses to violence are expected to shift.

## Implementation Considerations

Similar to the the SASA!, the intervention can be designed as a cluster randomised controlled trial conducted in eight communities in two administrative divisions in Andhra Pradesh. Sites should be pair matched, with one from each pair randomly allocated to the intervention group and the other designated a control. The SASA study in Uganada was targeted towards women aged 18-49 years. Furthermore, the SASA study also established the cost effectiveness of expanding the intervention to women aged 15 and above. In Andhra Pradesh, in our view, this community mobilisation intervention can be targeted to women aged 15-59 years who have been in a regular or casual partnership in the past year, and who lived in a census enumeration area in which the intervention is community activist is operating. The expansion to younger age of 15 is justified in the context of Andhra Pradesh where the likelihood of girls to be married by 15 is high and is in line with NFHS study on violence which takes the age of 15-49 years. The expansion to the older age until 59 is based on the fact that older women are also likely to experience IPV, as found in our previous study on domestic violence against women in Vietnam (Duvvury et al, 2012). This intervention could be integrated in the existing schemes such as SABLA (Scheme for Empowerment of Adolescent Girls).

## Costs and Benefits

### Costs

The cost of the CMBIVAW intervention is taken from the economic evaluation study of Michaels-Igbokwe et al. (2016). Michaels-Igbokwe et al. (2016) estimated the average cost per person of community mobilisation intervention to be US\$15, which in the current exchange rate translates to cost per person of Rs 978.3 in 2018 exchange rate.

### Benefits

The evaluation studies of the SASA! intervention estimated a 55% reduction in IPV at the end of the intervention period. Furthermore, the benefits were estimated to last for, at least, another four years. The reduction in IPV leads to both health benefits and economic benefits. The health benefits include a reduction of a disease burden attributable to exposure to interpersonal violence, Furthermore, the health benefits should also see a reduction in both the embedded risk of death from each episode and the pain and suffering of living with interpersonal violence. The economic benefits do not simply stop at the level of individual,

but it also impacts the overall economy. Thus, the total benefit is estimated to be approximately Rs. 3073 crores and it includes both the economic and health benefits, which is encapsulated in the estimated BCR ratios of the intervention.

## BCR Table – Andhra Pradesh

The summary BCR tables given below provide the estimates assuming the reported rate of reduction of IPV, i.e. 55%, by these two interventions.

Summary Table

Interventions	Benefit (Rs. crores)	Cost (Rs. crores)	BCR	Quality of Evidence
Self Help Group-Based Intervention for Combating VAW (SHGIVAW)	3073	141.7	21.68	Strong
Community Mobilisation-Based Intervention (CMBIVAW)	3073	163.5	18.79	Strong

Note: All figures assume a 5% discount rate; benefits and costs are in INR.

The BCR values for the interventions are not significantly different from each other, which is borne by the commonalities in these two interventions and also the reported rate of reduction in IPV by these interventions. Nevertheless, the BCR values are instructive and do suggest the positive impact of community mobilization programmes in reducing the IPV rates.

## 1. Introduction

Intimate partner violence (IPV), the most common form of violence experienced by women globally, is defined as sexual, physical and emotional violence by a husband or partner. According to the National Family Health Survey in 2005-06, 37.2 per cent of Indian women reported experiencing some form of violent behavior by their husband. Other studies indicate even higher levels – for example a study by Nanda (2014) of six states found that 52% of surveyed women reported lifetime experience of some form of spousal abuse by the husband. Kalokhe et.al (2017) in a meta-review found a wide inter-study variation as well as variation between lifetime prevalence and past 12 months prevalence. Overall, they estimate that 41% of women experience it in their lifetime and 30% have done so in the past year (Kalokhe et al, 2017). Overall the prevalence of violence in India is higher than the global lifetime average of 1 in 3 women as reported by WHO (2013).

IPV is a reflection of the fundamental unequal power relations within marriage. Patriarchal norms generate and maintain this unequal power balance with husbands' almost unlimited control and power over their wives. Concomitantly, a "good woman" submits to and obeys her husband (Pande, Falle, Rathod, Edmeades, & Krishnan, 2011). These norms contribute to high levels of acceptance of IPV by men and women both. They also contribute to a lack of openness to acknowledge and address IPV as a problem, due to stigma against those who have experienced violence and the fact that women are socialized to accept and tolerate the practice (Pande, Nanda, Bopanna and Kashyap, 2017).

Government response to IPV has been slow given how deeply embedded it is within social norms and cultural practices. The most significant response has been the enactment of the Protection of Women from Domestic Violence Act, 2005. This law is the first comprehensive legal response to domestic violence and provides for security of residence for the woman, protection from the abuser and support to women for medical examination, legal aid, and secure shelter through Protection Officers and NGOs. The courts can issue protection orders, residence orders, monetary relief (loss of earnings, medical treatment, loss to property and maintenance), custody orders, and compensation orders (for mental torture and emotional distress). Despite nearly 10 years of implementation, evidence of the effectiveness of this law is fragmentary. The few available assessments suggest that there are significant gaps in

implementation with lack of clarity within the judiciary about interpretation of specific clauses of the Act (Lawyers' Collective, 2013) inadequate budget allocations for establishing the required infrastructure (Jhamb, 2011) and lack of awareness about the law among duty bearers (judiciary, protection officers, and civil society) as well as women more broadly (Jaising, 2014). Moreover a significant stumbling block in the implementation is that the responsibility of implementation is on the states than the central government.

Andhra Pradesh has been overall praised by the Law Commission for its progress in implementing the PWDVA. At a substantive level the state has not invested in establishing a infrastructure of Protection Officers (PO) or identified NGOs for support services. In fact the government has opted to add the role of PO as an additional duty to existing government officials with budget for support personnel. However the budget allocation has dropped significantly in 2010-11 (Jhamb, 2014: 47). Given the lack of consistent support for implementation, there is no evidence that prevalence of IPV has been affected by the introduction of the legislation though there maybe an improvement in access to services to mitigate the impacts of violence for women.

A unique aspect of Andhra Pradesh (erstwhile and the new state) is commitment to women's empowerment through the expansion of micro-fiance programs via the mechanism of Self-Help Groups. The World Bank has been supporting programmes from 2004 to promote inclusive growth in Andhra Pradesh, and in particular the Indira Kranthi Pratham that reaches nearly 7.1 million households (SERP, 2014). To facilitate women's access to economic security and enhance social empowerment, range of programmes have been introduced such as Community Investment Fund for seamless access to loans, Veddi leni Runalu to reduce burden of interest on banks loans with government paying interest for groups with prompt repayment, promoting the mobilisation of Social Action Committees, and facilitating formation of Family Counseling Centers. While these initiatives are demonstrating an impact on poverty overall, the actual impact on transforming gender norms is not clear. In fact as per the NFHS 2015-16, 43 per cent of women reported ever experience of spousal violence, an increase of about 8 per cent from the NFHS 2005-06 rate of 35.2 per cent. IPV thus continues to be a serious problem with the state of Andhra Pradesh.

The consequences of IPV are widely known with its deleterious affects on physical and mental health including suicide and pre-mature mortality (Shidhaye & Patel, 2010; Verma et al., 2006, Jayaseelan, et. al, 2007), reproductive outcomes including sexually transmitted diseases, low birth weight babies and maternal mortality (Sudha & Morrison, 2011, Ferdos and Rahman, 2017; and Ganatra, Coyaji, and Rao, 1998) strong link to malnutrition of children (Ackerson and Subramaniam, 2008), and impacts on productivity and capability of women (Duvvury et.al, 2013). Thus addressing IPV is critical to ensure the well-being of women and their families.

Even though IPV is widely accepted as a fundamental human rights issue and public health issue, there has been considerable inertia in acknowledging it as a development issue. The recent UN declaration on the new Sustainable Developmental Goals (the 2030 Agenda for Sustainable Development) is the first time that the issue has been explicitly incorporated in the global development policy agenda. However, carrying through the expressed commitment endorsed by governments around the world to concrete policy action on violence against women, particularly in the context where economic reasoning weighing more than all other considerations in policy making, remains the next challenge. A main reason why the issue of IPV (or violence against women, in general) does not enter the policy discourse is the lack of quantitative translation of the individual specific micro level costs that arise in the incidents of violence to the macroeconomic level.

From a macroeconomic perspective, the loss of income at the individual level due to absenteeism (and presenteeism) leads to both loss of production, i.e. output (supply side) and loss of consumption (demand side). In addition to these direct impacts, the loss in output has indirect impact owing to the production linkages in the economy (inter-sectoral linkages). Therefore, the total loss to the macroeconomy due to IPV, if both the direct and indirect impacts are taken into account, can be substantial. In the literature, Raghavendra et al 2017 considers both the direct and indirect impact and estimate the total loss for Vietnam, which is estimated to be around 1 per cent of GDP. The macroeconomic view informs us that the loss due to violence against women is an invisible 'leakage' that is permanently lost from the circular flow and if it is not stopped it would continue to weaken the positive gains from government welfare programs.

In a similar vein, in this paper, we estimate the loss due to IPV on the macroeconomy of the state using the gross value-added measure. However, note that only the direct impact to the economy is considered here and not the indirect impact via production linkages. The baseline scenario here is the existing gross domestic product (GSDP) of the state, which is produced at the current prevalence and incidence rates of violence. To this baseline, we compare the scenario in which if the prevalence rate is reduced by say 10 per cent, the resulting increase in output, or GSDP, represents the potential output that could have been produced, or gained, in the absence, or from the reduction of IPV that would be reflected in the increased work days for women. In other words, the economic benefits are minimizing the loss to the output due to violence.

The framework that is used here in this paper is particularly interesting in the context of Andhra Pradesh, where the Government is committed to implementing a multidimensional framework for Human development (*The Socio-Economic Survey 2017-18*, Government of Andhra Pradesh). In particular, the Government has evolved a holistic monitoring strategy encompassing five themes: Gross Value Added (GVA), Sustainable Development Goals (SDG), Samaaja Vikassam, Kutumba Vikaasam and Key Performance Indicators (KPI). By looking at the issue of violence against women from the macroeconomic perspective, our study provides an analytical framework for developing a monitoring tool kit that combines two of the five themes, namely, SDGs and GVA – reduction in the IPV increases GVA and at the same time helps fulfill the Target 5.2 of the SDG.

A successful intervention should reduce the prevalence of violence, thereby enhancing both the economic and social benefits at the individual, family and community levels. The two interventions that we use in this paper are community mobilization interventions, one implemented in South Africa and the other in Uganda, that reduced the prevalence rate of violence by around 55 per cent. In this paper, we use these two interventions and estimate the benefits, both economic and non-economic, if these were implemented in Andhra Pradesh. We use these interventions as an additional component incorporated in some of the existing government programmes targeted for women empowerment in the state and estimate the benefit to cost ratios, and also undertake sensitivity analysis of the estimates.

## 2. Self Help Group-Based Intervention for Combating Violence Against Women (SHGIVAW)

### 2.1 Description of intervention

This Intervention is a four-year clustered-randomised control trial based on the IMAGE project conducted in South Africa that combines microfinance program with participatory training on domestic violence, gender norms, and sexuality. The microfinance component would be implemented by identifying potential participants using the developed participatory wealth-criteria, which targets women aged 15-59 years from the poorest households in each village. Based on the 'Grameen Bank' model, where five women formed group to collectively guarantee one another's loans. Forty women constituted a 'loan centre' which met fortnightly to repay loans and discuss financial matters. In the South African study, this component of the intervention was administered by the Small Enterprise Foundation (SEF, Tzaneen, South Africa) and targeted the poorest households in each village that were identified through participatory wealth ranking techniques (Hargreaves et al, 2007). Loans were used for income generation, with the most common types of businesses being buying and selling fruit and vegetables, cloth making and selling, food stalls and running small shops.

The second component, a participatory learning programme, called "Sisters-for-Life" (SfL) as in the case of IMAGE project, would be developed and integrated into the loan centre meetings. The SfL programme in the IMAGE project was implemented in each loan centre over a 12-15 months period. This programme comprised two phases. Phase 1 consisted of ten 1- hour training sessions and covered topics including gender roles, cultural beliefs, relationships, domestic violence, and aimed to strengthen communication skills, critical thinking, and leadership. Women deemed "natural leaders" by their peers were elected by loan centres to undertake a further week of training and subsequently worked with their centres to address priority issues IPV. Phase 2 encouraged a wider community mobilization to engage both youths and men in the intervention communities. Sisters-for-Life was developed and piloted in conjunction with a South African domestic violence nongovernmental organization and was delivered alongside microfinance services by a separate team of trainers over a 12-month period.

The rationale for combining the microfinance and the participatory learning component was that the programmes that provide both the means (income) and the knowledge (empowerment) to improve household well-being and may serve as the stimulus for wider mobilisation around pervasive issues like violence against women. The combined approaches such as IMAGE provide an incentive for individuals to participate, which in the absence of loans, they likely would not. The benefits of such mobilisation in many public health issues have been well documented in the literature (Pronyk et al, 2008).

## 2.2 Data

The data is sourced from national and state government research and statistics including the following: NITI Aayog, NSS 68th round, National Family Health Survey 4, IMF and Health Data from Global Burden of Disease (GBD). Furthermore, we relied on Mithal (2018) for average incidents per women suffering violence, Duvvury et al (2012) for average days lost per incident and Copenhagen Consensus data on value of statistical life and YLD. We also sourced data from the state government's budget documents to derive allocations for the existing social welfare programmes that target particularly on the self-help group schemes and other women empowerment schemes, which is explained in the following section on costs.

## 2.3 Literature Review

Responses to address IPV largely fall into three categories – protection, mitigation and prevention. Protection interventions centrally focus on improving access to justice for women survivors of IPV and ensure enforcement criminal and civil sanctions against the perpetrator. Interventions range from training and capacity building of police, prosecutors and/or judiciary to mandatory arrest to active pro-arrest policies to specialized police stations (particular women only police stations) to community policing to legal aid to protection orders to specialized courts to paralegal and community based legal interventions. The evidence base on these multitude of interventions is relatively weak in low and middle-income countries. Even in Western countries with the exception of a few RCT studies, the evidence base is largely result of baseline and endline comparison or comparison of communities with and without the intervention. A meta review by Jewkes (2014) concludes that a) there is little evidence on the effectiveness of most of the current protection

interventions, b) there is no evidence to suggest that these interventions in fact impact on level of violence, and c) furthermore, no evidence that they prevent violence. At most, some of the interventions result in an improved understanding of law enforcement and legal professionals in the dynamics and consequences of IPV, which in the long-run may contribute to less acceptance of violence and potentially reduction in occurrence of IPV.

The only intervention in the Indian context which has been evaluated is an RCT study in Rajasthan that focused on police reform to improve the effectiveness of police in undertaking police work as well as the image of the police among the public. The interventions had no specific focus on IPV or even more broadly on violence against women. An important relevant finding was that among the four interventions that were tested, robust results were found for freeze on transfers and in-service training (Banerjee, Duflo, Keniston, and Singh, 2011). Both led to improvements in performance (investigation, arrests, etc) and reduction in negative perception of police.

Mitigation interventions include crisis interventions (hotlines, one stop crisis centres, shelters), counselling, therapy and psychosocial support interventions, advocacy interventions, and perpetrator programmes. A systematic review of these interventions by Jewkes (2014) finds again there is limited evidence on the impacts of these intervention on level of IPV. While hotlines and one stop crisis centres have gained popularity across low and middle-income countries, there is no strong evidence base to establish the effectiveness of these interventions. In terms of hotlines there is only study by Bennet (2004) that evaluated user satisfaction in Illinois in the US. One-stop crisis centres have been evaluated more often and about 11 studies which are largely project evaluations have undertaken some form of baseline and endline comparison. Most studies found an increase woman survivors' satisfaction with the services received and perception of empowerment (Morel-Seytoux, 2010 and UNFPA 2009). With respect to shelters, three meta reviews (Morrison et al., 2007; Straka, 2006; and Sullivan, 2012) suggest that a) some women reported reduction in IPV experienced by them, b) shelter residence was associated women deciding to leave the abusive relationship and c) women in shelters felt safer, more powerful and more knowledgeable.

With respect to counselling, therapy and psycho social support, several comprehensive reviews are available (McCollum and Stith, 2008; Keesbury and Askew, 2010; World Health Organisation, 2013). An RCT study of women receiving counselling services following a stay in a shelter in the United States (in the 'Midwest') found that the intervention group reported significantly less violence than the control group two years after the intervention (89% of controls reported reabuse vs 75% of women in the intervention group) (Sullivan and Bybee, 1999, cited in Wathen and MacMillan, 2003). The major outcome reported by these studies is improvement in relationship communication as well as psychological health of women and children.

A cross sectional mid-term evaluation of the *Ending Domestic Violence project in Rwanda* found that 44.4% of participants felt that counselling services helped them improve dialogue in addressing issues that may lead to violence (Omollo-Odhiambo and Odhiambo, 2011). The situation is similar in terms of advocacy services there is some positive evidence that these work in terms of providing information and understanding of options to women. Strong evidence on advocacy interventions was found in three advocacy trials conducted in Hong Kong (Tiwari et al, 2010). The trials implemented advocacy/ empowerment interventions of brief duration to women in three settings: antenatal, shelter based, and community health centre based. Of the three settings, the studies reported benefits in abuse outcomes in the two health-care settings, but there remains uncertainty about the intensity required for advocacy to have an effect (WHO, 2013). Perpetrator programmes have been widely reviewed though most studies are located in the US including six with RCT design. However, the findings in terms of impact on recidivism is conflicting with some impact with lower re-assault rate among treatment group but at the same time a high drop-out rate (40%) (Smedslund et al., 2011).

Prevention programs include a range of interventions to raise awareness and change social norms, social empowerment programs (particularly with vulnerable women), economic interventions, changing institutions with a focus on school, interventions focused on men and boys to change gender norms, interventions with families, couples or peers, interventions focused on individual risk behaviors (particularly alcohol abuse). A review by Fulu (2014) concludes that the majority of interventions focused on prevention have little direct evidence on reduction of IPV at the community level though there is some evidence of reduction

directly among participants as compared to control group. Most intervention evaluations demonstrate an impact on risk factors related to violence such as attitudes, school attendance, sexual practices, alcohol use, harsh parenting among others.

Furthermore, there are few evaluations that demonstrate a significant impact on women's experiences or men's perpetration of Violence against women and girls (VAWG). Similar trend is found in the study of an intervention in Bihar entitled "Do Kadam Barabari Ki Ore (Two Steps Towards Equality)", which was implemented among women members of Self-Help Group and their husbands to raise broad awareness on gender equality, increase non-acceptability of violence against women and reduce IPV. End line evaluation of this project found that there was a shift in gender role attitudes but little effect on IPV (Santhay and Jejeebhoy, 2017). Additionally, areas which receive large investment such as interventions focused on cash transfers to increase girls' enrolment or infrastructural investment on WASH facilities for girls, which have proved to have an impact on school enrolment (Barrera- Osorio, 2008; Cho et al., 2011; Hallfors et al. 2011). One study (Freeman et al., 2012) found no overall effect of school WASH improvements on students' attendance. However, evaluations of these programs do not show any significant impact on violence against girls at home or in school.

In economic terms, interventions results are mixed when the intervention has only one economic component (cash transfer, micro credit, property transfer, etc.). Some in fact indicated intensification of IPV in women receiving transfers or who were part of economic groups. However, the RCTs which linked microfinance or other group-based approaches to economic strengthening and social empowerment interventions showed reductions in IPV amongst female participants, although the strength of these results is mixed. The IMAGE project, using women only gender discussion groups and community mobilisation approaches, showed a statistically significant 55% reduction in women's experience of physical and/or sexual IPV (Pronyk et al., 2006). A program in Cote d'Ivoire focused on the incremental impact of introducing a dialogue element on gender inequalities in ongoing village saving and loan programme found that past year physical IPV reduced significantly for women who participated for at least 75% of the programme with their male partner (Gupta, et al 2013).

Another RCT intervention that had positive impact on IPV at the community level, and not just for individual participant, is the *SASA!* is a community mobilisation intervention that was started by Raising Voices in Uganda and sought to change community attitudes, norms and behaviours that result in gender inequality, violence and an increased HIV vulnerability for women. The interventions are designed to systematically work with a broad range of stakeholders within the community to promote a critical analysis and discussion of power and power inequalities. The *SASA!* evaluation using pair matched cluster randomized control trial is the first study to assess the impact of a partner violence prevention intervention at a community level, rather than among direct intervention recipients, or their partners.

The success of both the IMAGE and *SASA!* interventions is reflected in the impact that such community mobilisation has on reducing IPV prevalence rates. Both the RCTs reported a reduction in IPV prevalence rate around 55 per cent over a period of four years. Therefore, in the absence of systematic economic evaluation of intervention studies in India, we used these two models of interventions, which we think would be relevant in the Indian context, to inform policy makers of the potential benefits of focussed interventions to combat violence against women.

Within the Andhra Pradesh context, the response to violence against women has been multisectoral and can be broadly categorised into the broad pillars of protection, mitigation and prevention. As per the Government budget documents it is possible to discern the key programmes that the government is implementing to address violence against women generally

## AP Government Programs Addressing Violence Against Women

Pillar	Name of Programme
Protection	Universalisation of Women’s helpline  Mobile application ‘Abhayam’ for women’s security  Allocation to Protection Officers under the PWDVA
Mitigation	Scheme for Women’s Training Centre/rehabilitation for women in distress  Sakhi one stop crisis centre  Swadher Greh, Ujjwala Schemes and Women in Distress
Prevention	Non combat training for adolescent girls  SHE teams to prevent eve teasing

The state also has one of the largest programmes on economic empowerment of women, the India Kranthi Prathan which has some focus on social empowerment of women through the formation of Social Action Committes and Family Counselling Centres. There is little information on the extent to which there has been an impact on reducing violence against women, and in particular intimate partner violence.

### 2.4 Calculation of Costs and Benefits

This section describes the methods used for the estimation of benefits and costs of intervention 1, i.e. self-help group-based intervention for combating violence against women (SHGIVAW). Subsection 2.4.1 discusses the method for the estimation of benefits of SHGIVAW while subsection 2.4.2 explores the method for the estimation of costs of SHGIVAW.

### 2.4.1 Benefits of Intervention

This study estimates the benefits of the SHGIVAW as the reduction in loss to the economy of the state and non-economic loss to women due to a reduction in the incidence rate of intimate partner violence (IPV) because of SHGIVAW.

The target population of SHGIVAW is females (15-59 years) who are below the poverty line. Headcount ratio given by Tendulkar Committee (Tendulkar, 2013) has been used for the estimation of number of females (15-59 years) below the poverty line. The Labor force participation rates from NITI Aayog (2011-12) have been used to determine the number of working women targeted and number of non-working women targeted. The data on the prevalence rate of IPV is taken from the National Family Health Survey (NFHS-4).

Since the NFHS data only provides prevalence rates, we used the method proposed in the review of the literature by Kalokhe et al. (2017) to convert the prevalence rates into the incidence rates. The review suggests that out of 41% of women experienced IPV in their lifetime and only 30% have experienced in the past year (Kalokhe et al., 2017). This implies that the relationship of incidence to prevalence is reflected in the proportion of cases experienced in the past year to life time experience, which is used in our study to convert prevalence rates of IPV into incidence of IPV.

The incidence rates of IPV provide the number of working women targeted suffering violence and number of non-working women targeted suffering violence. Women who experience IPV generally experience multiple episodes per year (Kalokhe et al., 2017). To be consistent with another study in *Andhra Pradesh Priorities Project* (Mithal, 2018), this study assumes average incidents per woman experiencing IPV to be 8 per year. Using Duvvury et al. (2012), it is assumed that each incident leads to on an average 5.5 days of lost productivity.

The total days lost is valued at casual wages of Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) for working women. As the intervention targets women below the poverty line, taking average daily wages was not suitable. To be consistent with standard valuation methods of *Andhra Pradesh Priorities Project*, the time lost of non-working women is valued at 50% of the wage rate of working women. The multiplication of total days lost with the wages earned provides the household loss due to absenteeism.

The economic loss due to IPV is estimated by the loss of Gross State Domestic Product (GSDP). Assuming productivity to be the same for men and women labor force, GSDP per working person is assumed to be the same for GSDP per working female. For non-working women, 50% of the GSDP per working female is taken. Assuming 6 working days in a week, a total of 312 days have been taken. GSDP per working female per day and GSDP per non-working female per day is multiplied by the total days lost which provides the economic loss to the economy of the state due to IPV.

The non-economic loss due to IPV has been estimated by being consistent with standard valuation methods of *Andhra Pradesh Priorities Project*. Two approaches have been used for the estimation of non-economic loss of IPV. Using approach 1, deaths and years lost to disability (YLDs) due to IPV have been taken from the Global Burden of Disease, India (2016). Deaths are valued using Value of Statistical Life (VSL) approach and YLDs have been valued at three times GSDP per capita as per standard valuation protocols of *Andhra Pradesh Priorities Project*. In approach 2 of estimating non-economic loss, years of life lost (YLL) and YLDs are added which provides disability adjusted life years (DALYs). The DALYs are then valued at 3 times per capita GSDP in 2018. Using different approaches to value health effects only changes the BCR at the second decimal place.

Jan et al. (2010) suggest that after four years of SHGIVAW intervention led to a 55% reduction in IPV. As the IMAGE Intervention is designed to reduce intimate partner violence by focusing on shifting the underlying power dynamic that fuels violence, it can potentially generate social externalities through empowering women. In order to capture that effect we assume the benefits arising from such an intervention would persist for some time post intervention before it gradually wanes in the absence of further initiatives to sustain the momentum created by the intervention. To capture the longevity effect, we have calculated post intervention benefits for the period 2023 to 2026. We assume that the benefit of 55 per cent reduction due to the intervention persists in 2023 and 2024, and subsequently reduces to 25 per cent reduction in 2025 and is only 10 per cent in 2026. Of course there can be many other different pathways of gradual reduction of benefits in the absence of any further initiatives to sustain the benefits after intervention. However, our illustration provides a way to capture the transformative power of interventions that generate social externalities through fundamentally shifting the gender power dynamic.

The reduction in economic as well as non-economic loss due to a reduction in the incidence of IPV is the net benefit of interventions. In the case of intervention 1, assuming the intervention starts in 2018, the benefits are estimated for 2022, which is the end year of the programme. Taking into account the longeviy effects of the intervention, we have estimated the benefits post intervention period up to 2026. The projections are made using the IMF's forecasts as per the World Economic Outlook Database. The total benefits are then discounted at 3%, 5% and 8%.

### 2.4.2 Cost of Intervention

The cost of intervention has been assumed from Jan et al. (2010). Jan et al. (2010) found the cost of the two-year trial period to reach 855 participants in South Africa stood around \$43 per person and to reach an additional 2,598 clients during the scale-up, the cost was \$13 per person. As this study proposes to target 1.67 million women in Andhra Pradesh we took the cost of scale up in our estimation and is equivalent to INR 847.86 in 2018 exchange rate. The total cost of intervention is calculated by,

$$\textit{Total cost of intervention} = \textit{per person cost} * \textit{number of females (15 – 59 years) below the poverty line} \quad (1)$$

## 3. Community Mobilisation-Based Intervention for Combating Violence Against Women and Empowerment of Women (CMBIVAW)

### 3.1 Description of intervention

This intervention is based on the SASA! project, which is a community mobilisation intervention seeking to change community norms and behaviours that result in gender inequality, violence and increased HIV vulnerability for women. It was designed by Raising Voices (<http://raisingvoices.org/>) and implemented in Kampala in Uganda by the Centre for Domestic Violence Prevention (CEDOVIP). The SASA! approach seeks to change individuals'

attitudes, community norms and structures, by supporting entire communities through a phased process of change. SASA! meaning 'Now' in Kiswahili, is an acronym for the four phases of the approach—Start, Awareness, Support, Action.

Through each of these stages, the SASA! materials provide the framework for the delivery of mutually reinforcing messages delivered through both formal and informal sources. Thus, community members are repeatedly exposed, either directly or indirectly (for example through other community members who have attended activities) as the intervention gains momentum. Through this process, new ideas, attitudes and norms that promote more equitable relationships diffuse throughout the community and behaviours and community responses to violence are expected to shift.

In the intervention communities, four types of activists delivered SASA! programming; (i) community activists (CAs), (ii) Ssengas (traditional marriage counsellors), (iii) drama groups and (iv) community based organisations. CAs and Ssengas received bi-monthly training and support from CEDOVIP staff members to plan, host or implement activities including public events such as community dramas and poster discussions, small group activities, and one-on-one 'quick chats'. Drama group members and community based organisations also participated in regular training over the course of the intervention and contributed to the dissemination of SASA! materials and messaging through drama and participation in community events. Regular training was also provided to community stakeholders including health care workers, police and institutional leaders who incorporated the knowledge and skills gained through SASA! into their everyday work responding to violence, preventing violence, working to improve service delivery and influencing policy. CEDOVIP staff members delivered all training sessions, supported activists in planning activities, acted as mentors and conducted field visits to assess and assist in the delivery of community-based activities. Staff also organised public screenings of SASA! films. Raising Voices staff led the monitoring and evaluation activities including daily field visits, data entry, analysis and reporting. CEDOVIP management oversaw the overall implementation of the intervention with support from Raising Voices on a regular basis.

The SASA! intervention is a cluster randomised controlled trial conducted in eight communities in two administrative divisions in Kampala, Uganda. Sites were pair matched,

with one from each pair randomly allocated to the intervention group and the other designated a control. Cross-sectional surveys of community members (men and women aged 18–49 years) were conducted at baseline (2007) and endline (2012) in both intervention and control sites. The total target population is women aged 18–49 years who had been in a regular or casual partnership in the past year and who lived in a census enumeration area in which a SASA! community activist was operating.

## **3.2 Data**

The data is sourced from national and state government research and statistics including the following: NITI Aayog, NSS 68th round, National Family Health Survey 4, IMF and Health Data from Global Burden of Disease (GBD). Furthermore, we relied on the Mithal (2018) for average incidents per women suffering violence, Duvvury et al (2012) for average days lost per incident and Copenhagen Consensus data on value of statistical life and YLD.

## **3.3 Calculation of Costs and Benefits**

This section describes the methods used for the estimation of benefits and costs of intervention 2, i.e. combating violence against women and empowerment of women (CMBIVAW). Subsection 3.3.1 discusses the method for the estimation of benefits of CMBIVAW while subsection 3.3.2 discusses the estimation of costs of the intervention.

### **3.3.1 Benefits of Intervention**

This study estimates the benefits of the interventions as the reduction in loss to the economy of the state and non-economic loss to women due to a reduction in the incidence rate of IPV because of CMBIVAW. The same method as used for the estimation of benefits of SHGIVAW has been used for the estimation of benefits of CMBIVAW.

Michaels-Igbokwe et al. (2016) suggest that the second intervention, CMBIVAW, would lead to a 52% reduction in IPV after two years of interventions. As the SASA! intervention is designed to reduce intimate partner violence by focusing on shifting the underlying power dynamic that fuels violence, it can potentially generate social externalities through empowering women and engaging men in the community to internalise gender equality norms. In order to capture that effect we assume the benefits arising from such an

intervention would persist for some time post intervention before it gradually wanes in the absence of further initiatives to sustain the momentum created by the intervention. To capture the longevity effect, we have calculated post intervention benefits for the period 2023 to 2026. We assume that the benefit of 55 per cent reduction due to the intervention persists in 2023 and 2024, and subsequently reduces to 25 per cent reduction in 2025 and only 10 per cent in 2026. Of course there can be many other different pathways of gradual reduction of benefits in the absence of any further initiatives to sustain the benefits after intervention.

The reduction in economic as well as non-economic loss due to a reduction in the incidence of IPV is the net benefit of interventions. In the case of CMBIVAW, assuming the intervention starts in 2018, the benefits are estimated for 2022, which is the end year of the programme. Taking into account the longevity effects of the intervention, we have estimated the benefits post intervention up to 2026. The projections are made using the IMF's forecasts as per the World Economic Outlook Database. The total benefits are then discounted at 3%, 5% and 8%.

### 3.3.1 Costs of Intervention

The cost of the CMBIVAW intervention is taken from Michaels-Igbokwe et al. (2016). Michaels-Igbokwe et al. (2016) find the average cost per person of community mobilisation intervention to be US\$15, which in 2018 exchange rate translates to cost per person of Rs 978.3. The total cost of intervention is calculated by,

$$\text{Total cost of interventions} = \text{per person cost} * \text{number of females (15 – 59 years) below the poverty line} \quad (2)$$

## 4. Conclusion

The summary BCR tables given below provide the estimates assuming the reported rate of reduction of IPV, i.e. 55%, by these two interventions.

Intervention	Discount Rate	Benefit (INR Crores)	Cost (INR Crores)	BCR	Quality of Evidence
Self Help Group-Based Intervention for Combating Violence Against Women (SHGIVAW)	3%	3477.89	141.7	24.54	Strong
	5%	3072.60	141.7	21.68	
	8%	2564.94	141.7	18.10	
Community Mobilisation-Based Intervention for Combating Violence Against Women and Empowerment of Women (CMBIVAW)	3%	3477.89	163.5	21.27	Strong
	5%	3072.60	163.5	18.79	
	8%	2564.94	163.5	15.68	

The BCR values for the interventions are not significantly different from each other, which is borne by the commonalities in these two interventions and also the reported rate of reduction in IPV by these interventions. Nevertheless, the BCR values are instructive and do suggest the positive impact of community mobilization programmes in reducing the IPV rates. Prevention involves changing social norms that underlie the unequal power relations that fuel violence and the level of acceptance of violence against women. The evaluation literature suggests that reduction in prevalence of violence is possible when gender transformative component is added to traditional economic interventions (eg IMAGE) or when communities are mobilised in a process of understanding and action (SASA!). Both interventions are low-technology and result in a significant change. SASA! type intervention is fundamental to ensure change within the community as a whole engaging women and men, which is imperative for sustainable change.

The benefits estimation here attempts to capture the loss to the overall economy and thereby provides a framework to look at the linkages between individual and the macroeconomy, which we think is important from a policy perspective. Often violence against women is seen as a private family issue and our method brings out the loss of income the overall economy suffers notwithstanding the existing prevention and mitigation

measures. In Andhra Pradesh, at the existing IPV prevalence rate the total loss to the economy, both economic and non-economic, of the state due to violence against women is 0.19 per cent of GSDP (in 2022 prices). If the prevalence rate is reduced by 55 per cent as estimated by these interventions, the total loss to the economy reduces to 0.09 per cent of GSDP 2022 prices. Therefore, reducing IPV rates not only benefits women, but it reduces the loss to the economy in the short term, or in other words, it increases the potential output of the economy. However, if we take into account the medium to long-term impacts in terms of expanding the human capital potential, the benefits of reducing violence against women can propel the economy to a higher growth trajectory and at the same time bringing about social transformation. In the context where the government is committed to transforming the society towards “Prosperity with Happiness” and moving towards global benchmarking, the issue of intimate partner violence, and violence against women and girls in general, should be seen as a fundamental driver that can propel Andhra Pradesh towards the top of the rankings in the *Happiness Index*.

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As a new state, Andhra Pradesh faces a bright future, but it is still experiencing many acute social and economic development challenges. It has made great strides in creating a positive environment for business, and was recently ranked 2nd in India for ease of doing business. Yet, progress needs to be much faster if it is to achieve its ambitions of becoming the leading state in India in terms of social development and economic growth. With limited resources and time, it is crucial that focus is informed by what will do the most good for each rupee spent. The Andhra Pradesh Priorities project as part of the larger India Consensus – a partnership between Tata Trusts and the Copenhagen Consensus Center, will work with stakeholders across the state to identify, analyze, rank and disseminate the best solutions for the state. We will engage people and institutions from all parts of society, through newspapers, radio and TV, along with NGOs, decision makers, sector experts and businesses to propose the most relevant solutions to these challenges. We will commission some of the best economists in India, Andhra Pradesh, and the world to calculate the social, environmental and economic costs and benefits of these proposals



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