



The Sanitation & Hygiene Fund

Impact of Investment in Menstrual Health and Hygiene (MHH) on Socio-Economic Well-Being

Research Brief - Economic Impact

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About the Sanitation and Hygiene Fund

The Sanitation and Hygiene Fund (SHF) is a UN fund dedicated to achieving universal access to sanitation, hygiene and menstrual health through market-based approaches. SHF works with Low- and Middle-Income Countries (LMICs) to build robust sanitation economies and menstrual hygiene marketplaces. For more information, please visit: www.shfund.org

About The Study

This study, commissioned by the SHF to identify promising examples from research and practice on potential socio-economic returns from investing in MHH, was conducted by Population Services International (PSI)-Europe. We thank the authors **Maria Carmen Punzi** (expert in the field of MHH) and **Dr. Lidwien Sol** (expert in cost-benefit analyses and MHH), both independent consultants. We also thank Odette Hekster of PSI-Europe and Dr. Claire Rothschild of PSI for their contributions.

Note on terminology: This report refers to women and girls' experience with menstruation, but recognises that not all those who menstruate identify as women or girls, and that not all women and girls menstruate. People who menstruate include those who have MHH needs: girls, women, transgender, non-binary and intersex persons.

Note on research: The ROIs presented in this study are based on available evidence, in this case three studies. Due to this limited available evidence, these findings aim to inform about specific cases and settings, not to generalise. The findings are a first step in the direction of developing general MHH ROIs. For further details, please see the section on limitations.

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Introduction

Lack of good menstrual health is an economic cost to women's individual lives and society at large. Ignoring Menstrual Health and Hygiene (MHH) needs results in substantial costs to society. This impact starts to show at an early age as young girls' school participation and attendance is affected, which results in earlier school dropouts and lower earnings over time.^{1,2} Women and girls often face marginalisation and stigmatisation because of menstruation, which impacts their full participation in society. These consequences accumulate over a lifetime: reduced educational opportunities and school dropout result in reduced future earnings and are compounded by higher healthcare costs. To overcome these barriers, a multi-level approach is needed, tackling unaffordability and inaccessibility of menstrual products, inadequate Water, Sanitation and Hygiene (WASH) infrastructure, health education, policy and regulatory environments, and harmful sociocultural beliefs and attitudes that prevent women and girls from reaching their full potential and economic goals. Lack of good menstrual health can have an impact on women engaged in either formal or informal work.

Formal Work

- **Absenteeism:** Menstruation-related absenteeism can be attributed to inadequate access to MHH products or supplies, poor WASH conditions in the workplace, stigma and shame related to menstruation, and the anxiety related to the inability to manage periods in work settings.³ A recent review of the literature has shown that across West Africa, between 11% and 19% of women working outside the home had to miss work because of menstruation.⁴ Women working in the formal sectors experience significant challenges in managing their periods, particularly in certain physically demanding occupations, such as construction and work in factories.⁵ Women working in factories or offices continue to face significant challenges and barriers to adequate MHH, such as toilets that may be of mixed gender, unclean, or unsafe; lack of access to water; or may be generally unsuitable for managing menstruation.
- **Presenteeism:** In addition to increased absenteeism and lower wages, another consequence of inadequate MHH in the workplace is presenteeism, defined as diminished performance while at work. Even when those who menstruate do not miss work, they may face difficulties in their ability to complete their work as a result of menstruation-related concerns and symptoms. Poor job performance has implications not only in terms of their sense of job satisfaction and advancement opportunities but also because poor performance can negatively impact their income and overall productivity. Both absenteeism and presenteeism can result in reduced earnings for employees and employers, a loss which can lead to higher rates of poverty within households and result in limited access to essential resources and services for dependent children.

Informal Work

- Women around the world engage in various types of informal work, such as street vending, caretaking of children or elderly people, working the land where crops are grown for additional household income, and other types of small informal business activities. The economic value of informal work conducted by women is significant: their participation in informal sectors contributes to economic growth, poverty reduction, and household income. Recognising women's informal work is essential to achieving inclusive and sustainable economic development.⁶ Women are impacted in their ability to sustain their entrepreneurial business if they do not have access to the resources needed, if they are bedridden, or if they limit their movements and participation because of inadequate menstrual products or hygiene facilities.

Opportunity Cost Of Current Gender Disparity

The failure to fully involve and value women's participation in the economy is a missed opportunity for innovation, productivity, and prosperity that hinders societal progress as a whole. Investing in women has expected spillover effects in households, communities, cities, regions, nations, and globally. These effects can range from increased household incomes, improved community well-being, enhanced urban development, stronger regional economies; and ultimately, global progress towards achieving sustainable and inclusive development goals.⁷



How Poor MHH Impacts Economic Well-Being

Lack Of Menstrual Products

One of the first and most straightforward barriers when it comes to managing menstruation at work is lacking access to adequate, quality, affordable and available menstrual products of choice (hereafter referred to as 'access'). This results in women feeling uncomfortable going to work, since they run the risk of bleeding through their clothes, which brings shame and anxiety. This results in reduced hours of work and decreased attention which leads to loss of income.

Lack Of Knowledge

Lack of correct knowledge about the physiology of menstruation is widespread and results in many women not knowing how to recognize what is normal (pain, discomfort) and what is not. This also means they rarely know whether menstrual problems can be covered by sick leave, or how to alleviate certain menstrual-related symptoms and when to seek medical care. This can result in reduced performance because of worry or self-consciousness, and absenteeism if women don't understand that menstruation is normal and that they can continue carrying out their activities while menstruating, if they are able to.

Lack Of Adequate WASH Infrastructure

Many workplaces lack adequate toilets, handwashing facilities, showers and places to change and dispose of MHH products safely and in privacy. This results in women being unable to change their MHH materials during work hours, resulting in poor hygiene and infections. These barriers contribute to absenteeism and presenteeism: if women aren't able to navigate these challenges in the workplace, they either choose to stay home - if they can afford it - or go to work, worried they can't change or care for their needs while there. This can result in decreased attention and less effective use of working hours.

Lack Of Enabling Environment

Many workplaces lack supportive policies for those who menstruate such as adequate sick leave, flexible work shifts, or the ability to take toilet breaks. This is aggravated by the lack of support from colleagues and harmful ideas about menstruation (being dirty or impure). This can make women's experience at work one of shame, isolation and pain, and can result in absenteeism, and in more extreme cases, exit the workforce.

Lack Of Adequate Solutions For Pain And Other Recurring Symptoms

While menstrual-related symptoms are widespread and solutions to them exist, women often do not receive adequate advice about them. Experiencing debilitating menstrual pain, mood swings or other symptoms prevents some women from feeling comfortable and concentrating while working. For example, heavy bleeding has been found to lead to productivity loss at work and interference with daily life.⁸ This results in presenteeism at best and absenteeism at worst, even when pain relief solutions are available.

Barriers

Effects



Lack of Menstrual Products

- Women feel uncomfortable going to work, which results in reduced hours of work.
- Women have decreased attention, leading to a loss of income.



Lack of Knowledge

- Women experience reduced performance due to worry or self-consciousness.
- Absenteeism can occur if women don't understand that menstruation is normal and that, in the absence of abnormal bleeding or pain/discomfort, they can continue their activities while menstruating.



Lack of Adequate Infrastructure

- Inability to change menstrual health and hygiene (MHH) materials during working hours results in poor hygiene and infections among women.
- Women experience decreased attention and less effective use of working hours.



Lack of Enabling Environment

- This situation can result in absenteeism, and in more extreme cases, women may exit the workforce.



Lack of Adequate Solutions For Pain and Other Recurring Symptoms

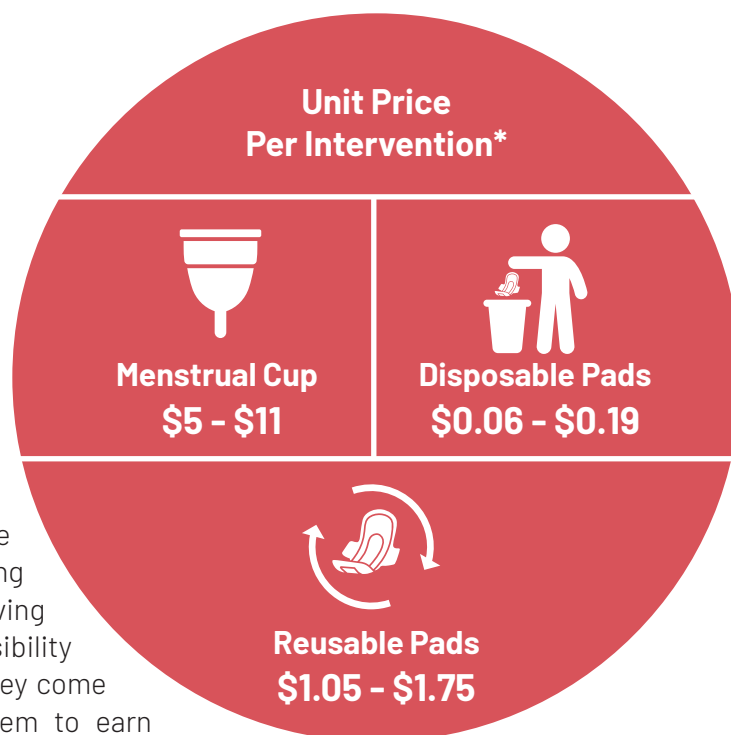
- Women's productivity is impacted by presenteeism and absenteeism, even when pain relief solutions are available.



MHH Interventions and Costs to Improve Economic Well-Being

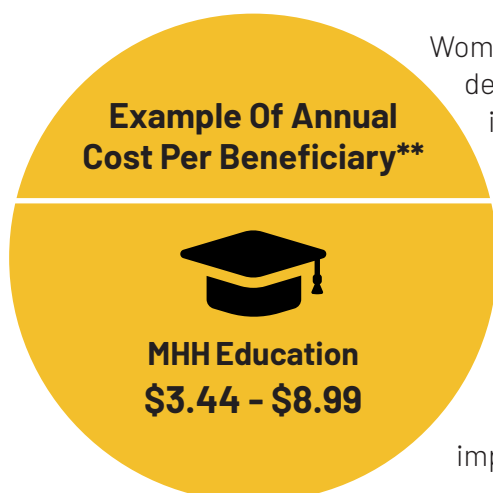
Boosting Availability of Affordable MHH Products

- Providing free menstrual products⁹ (disposable pads, reusable pads or menstrual cups) in the workplace supports working women:¹⁰ it reduces the financial burden of menstruation and prevents them from having to compromise on other expenses to buy menstrual products. Additionally, it helps them feel safe and protected as they walk or travel between home and work; and it prevents the discomfort of being surprised by menstruation while working or having to wear one product for too long without the possibility to change. This increases the likelihood that they come to work while menstruating, which allows them to earn income and advance in their career. Existing programmes show that investing in providing menstrual products in the workplace and changing beliefs about menstruation decreased absenteeism.¹¹



- Increasing the availability of a variety of high quality types of menstrual products in retail is a vital intervention to support working women's MHH needs. This can be achieved through advocacy and awareness efforts, collaborations with manufacturers and organisations, offering subsidies or discounts, and promoting products in-store. As a result, working women would have easier access to their product of choice and be able to confidently go through their work day.

MHH Education



Women spend a lot of time in the workplace. Several studies have demonstrated interventions through which women receive information about reproductive health and hygiene practices in the workplace.

- An effective delivery strategy for MHH education in the workplace is through the use of peer educators. In groups of fellow employees, topics such as the physiology of menstruation, hygiene behaviours and reproductive health are discussed.¹² Some of the outcomes include improved knowledge and behaviour related to menstrual hygiene and improved knowledge of reproductive health and contraception.

* The \$ symbol indicates USD throughout the brief. Price ranges are approximate and can vary significantly depending on the country, region, and specific circumstances. Prices for menstrual cups include the costs of replacement and are based on: implementation costs in low-income countries for USAID, PSI-Zimbabwe, and literature: Babagoli et al., 2022 (see citation 10), USAID learning brief (2022) (see citations 28,29). A systematic review (van Eijk et al., 2019) (see citation 9) found a range of \$0.72-\$46 and median of \$23-\$30 per menstrual cup, however, this was based on 99 countries and 145 brands in mostly high-income countries, and therefore less relevant in low-income settings. Disposable pad prices are based on PSI-Zimbabwe and Babagoli et al. (2022) (their actual costs and sensitivity range). Reusable pad prices are based on cost information from PSI-Zimbabwe and KMERPad Cameroun. Additional information, including calculation details, are available upon request by sending an email to info@shfund.org.

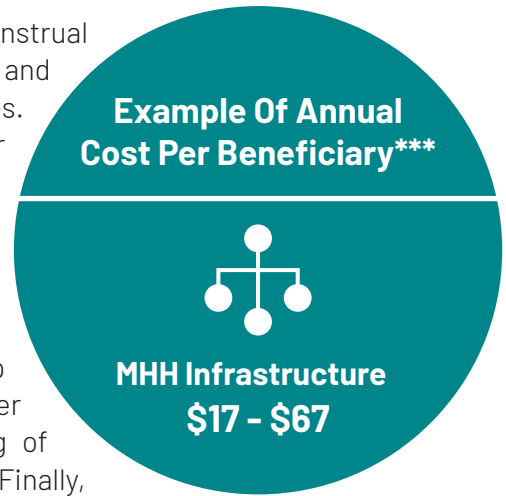
** Price indication is merely an example of how much such an intervention can cost (based on cost data from implementor Irise Group in Uganda, and literature (Babagoli et al. (2022) in Kenya, see citation 10). There is not enough available cost data to provide a rigorous range of expected costs in general.

- Changing harmful norms around menstruation in and outside of the workplace is essential to support women in their work and to normalise their participation in the workforce. This means changing the perception of colleagues and making management aware of potential challenges that come with menstruation, with the goals of creating a supportive environment and changing workplace policies.

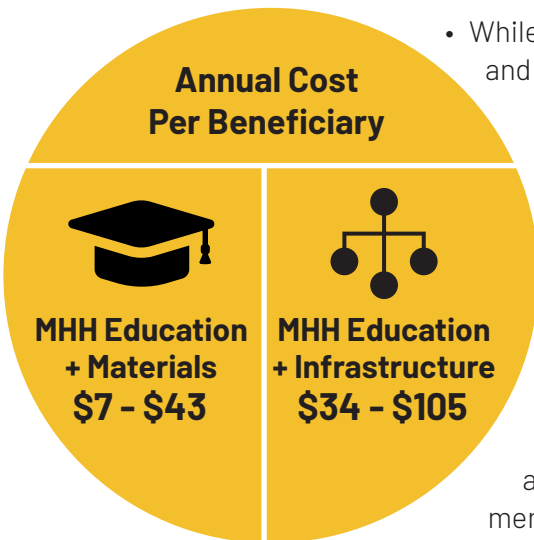
MHH-Friendly Sanitation Facilities

Women rely on physical spaces for undertaking a variety of menstrual tasks, including changing their menstrual materials, washing and drying reusable materials, and washing their hands and bodies. Often women need to bring their own toilet paper and bags for used materials, suggesting that their working environments are insufficiently resourced for personal cleaning and disposal.¹³

- Employers should conduct a thorough needs assessment and evaluation of existing infrastructures. MHH-friendly sanitation facilities ensure access to running water and soap and to clean and private restrooms equipped with proper disposal mechanisms.¹⁴ Regular maintenance and cleaning of these facilities is essential to ensure hygiene and comfort. Finally, managers and employers should receive training and proper information about infrastructure needs in current and future buildings.



Holistic Interventions



- While the above interventions are presented separately, studies and programmes have shown that they are most effective when combined.¹⁵ Combining menstrual product provision, adequate infrastructure and education is more effective because it addresses multiple dimensions of menstrual health. WHO-UNICEF JMP data¹⁶ shows that adolescent girls aged 15–19, adolescent girls and women living in rural areas, those in the poorest quintile, and those with disabilities are less likely to be able to meet their menstrual health needs (use of menstrual materials, private place to wash and change, participation in school, work or social activities). Additionally, while most women and girls in each group are able to meet at least some of their menstruation-related needs, far fewer are able to meet all of them in combination. This shows that a holistic approach, which integrates all three components, maximises the impact by promoting informed choices, positive norms, and safe practices.

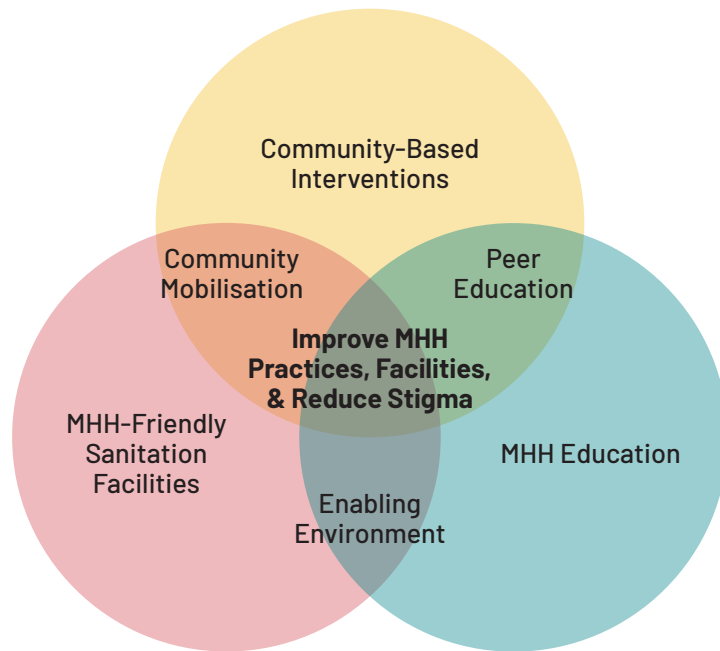
- The combination of MHH education and provision of MHH materials*+ is one of the most common types of interventions.
- MHH education and improvements in MHH WASH infrastructure is another combination that is found across several studies and is effective in promoting behaviour change and removing harmful myths about MHH.+

*** Price indication is merely an example of how much such an intervention can cost (USAID MHH infrastructure component in the workplace in Kenya and Nepal). There is not enough available cost data to provide a rigorous range of expected costs in general.

*+Costs based on 6 interventions in Kenya and Nepal. Source: USAID reports (see footnote 28,29) and Babagoli et al. (2022)(see citation 10). The median cost of a joint MHH education and MHH material intervention is \$27.50.

- Holistic interventions can also include implementing workplace policies to support menstrual needs. These can include flexible shifts, adaptable schedules, no requirements to ask permission to visit the toilets and sufficient breaks. One policy that stands out is menstrual leave, the provision of paid leave for women who suffer from menstrual pain. A number of countries in Southeast Asia (e.g. South Korea, Indonesia, Japan) offer such leave. However, data shows that women often do not take advantage of such measures, for fear of negative repercussions on their career and because these do not offer solutions to their pain, but rather decrease employability and increase isolation.¹⁸

Presentation of a holistic programme



+ Costs based on 4 types of interventions that mixed MHH education with improving MHH infrastructure in Bangladesh, Nepal and Kenya. Source: Sol et al., (2021)(see citation 17), and USAID (2019)(see citation 28,29). Median costs of such an intervention is \$54.



Potential Economic Outcomes from Investment in MHH



Outcome 1: Improved Earnings

In Egypt and Pakistan, educational interventions that targeted factory staff and managers combined with subsidised access to menstrual products resulted in increases in monthly salary, overtime payment, and savings after 12 months.¹⁹ This is partially linked to improved punctuality and decreased absenteeism and attrition, as shown in similar interventions implemented in garment factories in Bangladesh.²⁰



Outcome 2: Reduced Healthcare Costs

MHH interventions in the workplace can reduce the need to seek healthcare, and therefore cost of healthcare, for female employees, as reported by USAID programmes in Kenya and Nepal. This was mostly linked to the ability to access adequate menstrual products and training on menstruation.²¹



Outcome 3: Economic Gain For The Greater Society

Improved MHH is linked to better concentration. This is likely due to lower psychosocial stress associated with sanitation security, better pain management, and improved relationships with supervisors.²² This has clear benefits for factories and businesses, as benefits of improved concentration may be linked to higher quality of participation and better work performance.

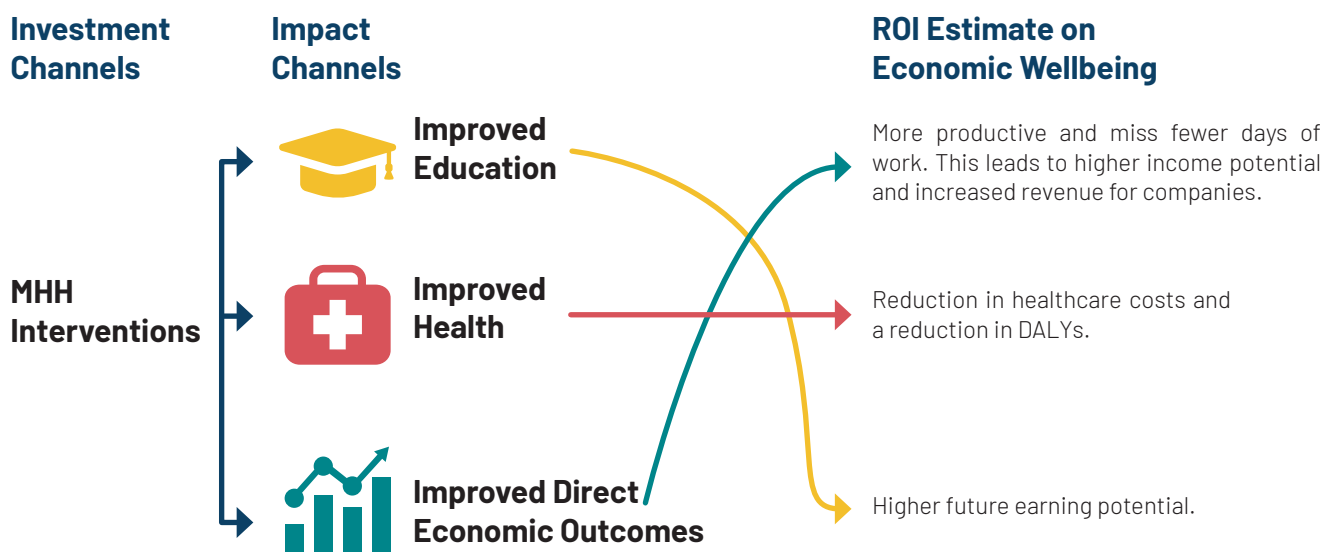


Outcome 4: Positive Effects On Health And Education Translated In Economic Terms

MHH interventions also have positive effects on women and girls' education and health outcomes (more detailed analysis can be found in the corresponding evidence briefs, 'Impact of Investment in Menstrual Health and Hygiene (MHH) on Education' and 'Impact of Investment in Menstrual Health and Hygiene (MHH) on Health'), which in turn have economic impacts.

- When girls are able to attend school regularly, they are more likely to complete their education and enter the workforce, which can increase their earning potential and contribute to economic growth.²³
- Improving MHH leads to higher school attendance, which increases future earnings over time
- Improving MHH leads to a reduction in healthcare costs and disability-adjusted life years (DALYs), which saves individual women money and has a positive economic impact on society.

Potential Economic Returns on Investment (ROI) in MHH



Investing in MHH has significant economic returns through various channels, including improvements in education, health, and direct economic outcomes.

- 1. Education:** Investing in MHH positively affects education.** Two MHH studies have shown that these improvements can be monetized by calculating the potential increase in future earnings for individuals who receive proper MHH support.
- 2. Health:** Investing in MHH also brings about positive health outcomes, such as a reduction in healthcare costs and a reduction in DALYs.
- 3. Direct economic outcomes:** Investing in MHH has direct economic benefits. When individuals have their menstrual needs fully satisfied, they are more productive and miss fewer days of work. This leads to higher income potential and increased revenue for companies. However, measuring these direct economic benefits can be challenging, as it is difficult to quantify the exact increase in productivity resulting from fulfilled menstrual needs.

To provide further insights, a research study conducted in Kenya²⁵ and Nepal²⁶ measured the direct economic returns of four different MHH interventions in the workplace. These interventions were a mix of providing MHH materials, MHH education, behavioural change and WASH infrastructure improvements. The visual above shows the total direct economic benefits of the intervention, which results from women missing fewer hours of work during their periods (on average 1,5 hours per month). This reduction in absences^{***} benefits both women, by increasing their wages, and companies, by enhancing their productivity. In Kenya, the average direct economic returns per woman were \$15 and in Nepal, they were \$45. Although these returns are lower than the costs of the intervention, it does not necessarily mean the return on investment is negative. There are two other channels through which positive benefits occur.

** See the evidence brief Impact of Investment in Menstrual Health and Hygiene (MHH) on Education or additional information, including calculation details, are available upon request by sending an email to info@shfund.org.

*** This measure quantifies the total amount of working hours but does not account for productivity levels (i.e. if menstruating women were more productive during their existing working hours, that could not be measured). This measure can best be interpreted as an underestimation of the true direct economic benefits.

Namely, the intervention also resulted in reductions of healthcare costs and increased the general economic well-being of women. The latter measure was measured using the willingness to pay (WTP) method, which reflects the beneficiaries' valuation of the interventions. This measure acts as a catch-all measure, theoretically capturing all benefits of the intervention (direct economic returns, health care benefits, social benefits etc.). However, it can be challenging to elicit the true willingness to pay from beneficiaries, so all three measures are provided here for informative purposes. The table below presents the direct economic returns, reductions in healthcare costs and increased economic well-being per woman. A Technical Note, accompanying the study's cost-benefit database and further explaining the differences and overlaps between these measures, is available upon request by sending an email to info@shfund.org.

In the following section, the ROIs of these and other interventions are presented. The conservative estimate only considers the benefits accruing from reduced absences and reduced healthcare costs (columns 2 & 3). The standard estimate takes into account the reduction in absences and women's economic benefits (columns 1 and 3). The optimistic scenario considers all three benefit categories when calculating the ROI.

Returns of MHH Interventions in the Workplace

	Total direct economic return from decrease in work absence / woman	Reduction in healthcare costs	in economic benefits (WTP)/ woman	Total cost of intervention / woman
Kenya ^{+x}	\$15	\$42	\$186	\$80
Nepal ²⁷	\$43	\$199	\$213	\$155

As of now, there have been three peer-reviewed studies conducted that studied the monetized benefits and associated costs^x of eight different MHH interventions.^{xx,xi} The interventions researched in those studies varied in nature, ranging from providing MHH education to upgrading WASH facilities and supplying menstrual materials. They were implemented in different settings such as schools and workplaces across Nepal, Bangladesh, and Kenya. It is important to note that the rigour and methods used to estimate the benefits differed across these studies. Therefore, caution should be exercised when interpreting the results, as they do not provide a comprehensive overview of the returns on investment in MHH interventions. Rather, they serve as an indication of what can be expected and highlight the need for a standardised approach to measuring and assessing the cost-benefit of MHH interventions.

+x Evidence from 2 MHH workplace programmes (USAID learning briefs (2022))(see citations 28,29)

x All studies only measured short-term benefits and could not yet estimate long-term benefits such as generational effects or effects on other household members of improved MHH, long-term disease burden reduction due to lower transmission rates, potential lower environmental burden due to improved disposal practices and use of more sustainable products, improvements in gender equality and higher productivity and inclusivity of women in society (likely raising national GDP).

xx USAID learning briefs (2022)(see citations 28,29), Babagoli et al. (2022)(see citation 10), Sol et al. (2021)(see citation 17)³⁶

xi All studies only measured short-term benefits and could not yet estimate long-term benefits such as generational effects or effects on other household members of improved MHH, long-term disease burden reduction due to lower transmission rates, potential lower environmental burden due to improved disposal practices and use of more sustainable products, improvements in gender equality and higher productivity and inclusivity of women in society (likely raising national GDP).

Average Return on Investing \$1 in Menstrual Health and Hygiene (Economic Returns)



Despite variations in methodologies and contexts, the ROIs in MHH interventions are compelling, with positive outcomes across education, health, and direct economic benefits. The graph above showcases the ROIs and sensitivity analysis, offering conservative, standard and optimistic estimates. This comprehensive sensitivity analysis takes into account diverse expectations concerning the future, such as long-term benefits of MHH interventions, future inflation rates, discount rates, efficient delivery of MHH interventions, and potential under- or overestimation of true effects. The purpose of presenting the entire bandwidth of estimates is to provide the most informative data as possible. For those more inclined to optimism about one or more of these factors (such as successful process delivery, short-term benefits leading to long-term gains and/or modest inflation rates), the optimistic estimates might be of particular interest. By incorporating a range of possibilities, decision-makers can make informed choices and develop strategies that consider different potential outcomes. The MHH interventions in this brief yielded positive returns for every US dollar invested. This suggests that investing in MHH can be highly beneficial in terms of both social impact and economic returns. By ensuring access to menstrual products, improving facilities and implementing comprehensive MHH programmes, the full potential of individuals, communities, and economies can be unlocked.

Limitations and Future Research

The ROIs presented in this section are based on three studies. While the method applied to combine insights from these studies is rigorous, the findings cannot easily be generalised. The current state of the evidence base on the cost-effectiveness of MHH interventions is still limited for several reasons:

- The majority of studies do not report on any cost information;
- It is difficult to prove causality for the economic, educational and health benefits of MHH interventions, as well as quantify them, since they are often interdependent and at times overlap;
- There is no universal consensus on how to measure MHH benefits, therefore each study measures it differently, hindering generalisation and comparability;
- There is no universal definition of what a standard MHH intervention entails, therefore most studies research different types of MHH interventions and cannot easily be compared;
- Not every country is represented in the evidence base, as currently there is an overreliance on evidence coming from a handful of countries such as Nepal and Kenya, where the majority of MHH interventions have been implemented over the past decade;
- There is no consensus on what universal MHH coverage entails;
- Most MHH interventions are holistic interventions, limiting the evidence on the effects of one single component of MHH interventions, making it difficult to provide investment advice on single components.

In light of the listed limitations, there is great need for further cost-effective evidence of MHH interventions. To fill this gap, it is important that researchers and practitioners start reporting on the costs of the interventions they implement and/or study to contribute to existing evidence and to diversify the countries where such studies take place. Harmonising definitions and measurements of MHH interventions will help compare the effectiveness of such interventions and build the evidence base further.



Eshe and Kofi, a couple engaged in the A360, Smart Start program, go for a walk hand in hand. Ethiopia, 2019. © Benjamin Schilling

Endnotes

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