

## **Addressing Period Poverty Can Boost India's GDP By 2.7%: Insights & Economic Implications**

**Tanya Narang**

**20 Sep, 2022**

**Economics student**

**Institution: TSRS, V-37, Mousari Avenue Phase III, DLF City, Gurugram, India**

### **Abstract**

Menstrual Health and Hygiene (MHH) is essential to the well-being and empowerment of women and adolescent girls. As per World Bank, on any given day, more than 300 million women worldwide are menstruating. However, an estimated 500 million lack access to menstrual products and adequate facilities for menstrual hygiene management (MHM). And 4.5 billion people don't have access to adequate sanitation facilities. My study included primary and secondary research and analytics to understand how menstrual health management is practiced across various parts of India, challenges and opportunities, barriers to access and stigmas associated and finally benefits gained by menstruators by using period products. It then calculates that Menstrual Health Investment Index is 1.2% of India's GDP per capita, how current disposable period products are unaffordable for a large part of population and compares the cost of menstrual hygiene management for reusable alternatives vs the traditional disposable ones and how reusable options can help address period poverty. The research then estimates that India can make economic gains to its GDP by 2.7% (\$ 86.7 Billion), by positively impacting and addressing period poverty.

## 1. Introduction

**Background:** Millions of women menstruate daily worldwide, however, many lack access to menstrual products and adequate facilities for menstrual hygiene management (MHM). To effectively manage their menstruation, menstruators (girls, women & others) require access to water, sanitation and hygiene (WASH) facilities, affordable and appropriate menstrual hygiene materials, information on good practices, and a favourable environment where they can manage their periods health without taboos or stigma.

**Aim:** The study aims to understand how menstrual health management is practiced across various parts of India, challenges and opportunities, barriers to access and stigmas associated and finally benefits gained by menstruators by using period products. It then looks impact of using disposable products vs green menstruation options and how reusable products help address period poverty. The report then estimates the economic gains that India can achieve by positively impacting and addressing period poverty and finally concludes by highlighting socio-economic benefits of addressing menstrual hygiene & health management.

**Material & Methods:** Primary research was done (sample size 468 menstruators across India, where women & girls were interviewed in health centres via paper inputs and feedback was taken digitally from various cities) to understand background of menstruators, awareness, access to period products, menstrual health products and practices followed, channels of purchase & buyers, access to WASH (privacy, toilets, water), awareness & attitudes to safe disposal, stigma associated, availability of period products in schools and at workplaces, missed days in schools or workplace due to periods & reasons thereof, spend amounts by products, restrictions placed due to periods stigma and emotional and rational benefits of using menstrual hygiene products. Secondary research and analysis were done basis various global UN agencies, World Bank studies, research articles, websites, policy documents, infographics, news, and magazine articles to gain a better understanding of the menstrual hygiene management topic. Basis this, estimates were made for impact on GDP by keeping girls in schools, colleges. The information taken from these sources have been mentioned against the text or in citation notes.

**Results:** There are multiple key findings:

- **By reducing period poverty, India can boost GDP by 2.7% (\$ 86.7 Billion)**, as girls and women continue their education in schools and colleges, and join workforce
- **Removing period poverty has the potential to add \$ 3.2 Trillion in GDP gains**, which is the similar to India's current GDP, over a 37-years menstrual lifetime
- **Menstrual Health investment index as a % of India's GDP per capita stands at 1.2%**
- **Awareness or education doesn't equal to preparedness** 89% of menstruators were aware about periods but only 37.4% were prepared to handle them
- **Access is a luxury in schools & at workplaces** as 71.4% didn't have access to period products at their schools or workplaces in case they needed them and 70.5% have missed schools & workdays due to periods
- **School dropouts:** 1 in 5 (20.9%) have stopped going to schools after periods started
- **Menstrual taboos & patriarchy continues:** 63.5% mentioned that there is shame associated with talking about periods & 84% of menstruators had multiple restrictions placed on them
- **Ignorance continues around Menstrual Health Management:** 72.9% said they have fallen ill due to periods-related issues and 60.9% sought no medical help at all

- **Reusable menstrual hygiene products can be effective in addressing period poverty:**  
Reusable menstrual cups & pads cost only about 9 to 19% vs. traditional disposable sanitary pads during their lifetime

**Discussion & Limitations:** The research relied on interviews conducted in clinics, health centres by health workers and also on Google forms. Due to Covid-19 travel constraints, in-depth interviews with some menstruators were conducted over phone to better understand the topic and limited face to face discussions in Gurgaon area.

**Conclusion:** Addressing period poverty leads to not only immediate gains of increasing India's GDP by 2.7% but also adds significant value to India's GDP during a menstruator's lifetime. Helping menstruators manage their periods enables them to continue their education and not fall behind and therefore has a multiplier effect on overall society, e.g., ensure universal secondary education for girls, virtually eliminate child marriage, reduce early childbearing, reduce fertility rates in countries with high population growth, and increase women's decision-making ability and psychological well-being.

**Keywords:** Economics, India GDP, Period poverty, Menstrual Health Management, Menstrual survey, Gender equity, Healthcare

## 2. Introduction to Menstrual Health Management and Period Poverty

As per World Bank, there are 300 million women globally who menstruate daily. And about 500 million suffer from period poverty or lack access to period products and facilities for managing menstrual hygiene management (MHM). For managing their periods, women and young girls need WASH facilities(water, sanitation, and hygiene) facilities, cheaper period products and awareness materials for understanding menstrual hygiene, and a conducive environment where they can manage menstruation without taboos, stigma, or embarrassment. Also, a much more inclusive term used by informed health care providers these days is "menstruators", meaning, people who menstruate/have periods. This is so as it includes transgender men and non-binary people as well. In my research, I used these terms interchangeably to refer to a wider all-inclusive "menstruator" meaning.

Not having access to good menstrual health management leads to period poverty situation. Period poverty is defined as the challenges and struggles many young girls and women face especially from lower socio-economic income groups when they can't afford to buy menstrual hygiene products. A wider definition includes lack of

- awareness about menstrual hygiene management knowledge
- availability of adequate WASH facilities(water, sanitation, and hygiene facilities) and privacy
- access to quality period products continuously
- access to pain medication or healthcare guidance in case of periods-related health problems
- safe & hygienic disposal of sanitary products

Menstruating girls, women, and other menstruators face multiple challenges that go beyond the basic lack of supplies or infrastructure. Menstruators face societal taboos that are controlling and discriminatory. As girls and women avoid such embarrassing situations, they stop going to schools and workplaces leading to loss of studies, falling behind and loss in incomes, thereby exacerbating social and economic inequalities and therefore their health and career development.

The starting of menstruation, called menarche, typically, starts around 13 years. The average age at which menstruation ends is somewhere around 50, also called as menopause. This means, an average girl menstruates for nearly 37 years of her life or over 2000 days of her life, which is roughly 8% of the time an average woman lives, typically 72 years.

To manage periods, there are the 'traditional' disposable options of sanitary pads and tampons, to the newer age reusable products ~ absorbent underwear, reusable cloth sanitary pads, menstrual cups and menstrual discs.

### **3. Insights from Consumer Survey: Menstrual Health Management Situation In India And Globally: Awareness, Usage, Privacy, Taboos**

**Results from my primary research: “India Menstruation 2022: Trends, Challenges & Insights” survey of 468 menstruators across India conducted during Apr-Sep’22, across multiple cities, towns and villages in 13 states shows:**

- **Awareness channels:** 89% are aware about periods. The top 3 channels of information or awareness were – Mothers(39%), Friends(25%), Self-discovery(22%) - learnt about periods when they first experienced periods. Other sources of info were ~ TV + radio + newspaper + book(18%), School teacher(17%), Health workers/Asha (13%) and Local hospital(11%). Menstruators became aware from multiple sources of info, hence total exceeds 100%.
- **Shame associated with menstrual health:** 63.5% of them mentioned that there is shame associated with talking about periods. Girls in villages and towns faced the shame-factor up to 2.5 times higher than those living in cities.
- **Awareness doesn't equal to preparedness:** While 89% were aware about periods whether before or after experiencing it, only 37.4% were prepared to handle periods. 53.8% were not prepared and 8.8% were unsure. Those in cities were 3 times more prepared than those living in villages. Those living in villages were 1.6 times more unlikely to be not prepared vs those living in town(71.7% vs 43.8%).
- **Not all facets of Managing Menstrual Health are well understood:** 72.4% are aware about changing pads or cloth frequently, washing private areas(45.7%), washing reusable cloth with soap, drying before re-using(37.8%). The bottom practices were - only 1 in 5 were aware about - Eating healthy food(22.2%), Seeking medical help, if unwell(20.7%) and Hygienic disposition of sanitary pad(20.1%).
- **Awareness and usage of menstrual products varied:** In terms of awareness, sanitary pads came first (68.8%) followed by cloth(66.5%), other home products(rags, newspapers, old fabric, dried leaves etc.) (21.4%), menstrual cup(16.9%) and tampons(10.5%). However, usage-wise, products used were cloth(58.5%), sanitary pads(42.5%) other home products(rags, newspapers, old fabric, dried leaves etc.) (19.4%), menstrual cup(8.1%) and tampons(1.3%). After speaking to multiple menstruators, I found that many menstruators used multiple products, e.g., at home, they would wear cloth or home-made options, but when stepping out for long commutes or work, they would use disposable sanitary pads. Tampons usage was for special occasions like swimming etc.
- **Reasons for current choices:** Top cited reasons were - Easy availability(48.5%), Free(48.3%), Traditional practice(27.8%), Cost-effective and reusable(29.9%). Top channels of purchase were ~

Local grocery stores(42.7%), Chemists/Health facility(37.4%). Non-availability of products came at 42.9%. Women were 2X times shoppers for female hygiene products vs men(45.9% vs 21.6%)

- **Average spends on menstrual products:** 48.3% don't spend and use home products. 13.7% spend below Rs 200, 11.3% Rs 200-400, 8.5% over Rs 400. 11.3% use both home products & spend below Rs 200. 6.8% have spent Rs 200-500 on menstrual cups. Some received products free as part of government and non-profits dignity kit distribution drives and hence usage and paying data varies.

- **More is needed for improving WASH conditions**(water, sanitation, toilets, privacy) **barrier which prevents menstruators from stepping out to schools & workplaces:** 80.7% said they had privacy at home for menstrual health management, while only 48.6% had privacy in schools and 63.7% had it at workplace. Those having access to toilets varied ~ at home(90.6%), schools(60.3%) and workplaces(77.4%). Those having access to water at home was(80.7%), in schools(55%) and at workplaces(77%).

- **Less than half of people can do proper disposal:** 48.1% said that after using period products, they could dispose them off in a safe and hygienic manner. 51.9% couldn't! After speaking to some of menstruators, I found that they used to burn, bury them in ground, dump in fields or even flush them toilets. Many expressed anxieties in towns and villages about disposal or even drying reusable pads.

- **Access is a luxury in schools & at workplaces for 8-10 hours menstruators are outside:** Overall 71.4% menstruators mentioned they don't have access to menstrual products in schools or workplaces in case they needed them. This builds up anxiety due to possible leakages and results in missed days at schools & workplaces. While the national availability of products in schools & workplaces was 28.6%, in cities, it was 78.5%, in towns it was 38.5% and villages was a meagre 4.9%.

- **One in 5 girls were school dropouts:** 70.5% menstruators said that they have missed schools & workdays due to periods. 28% have missed schools for 1-3 days, 17.3% (4-6 days), 6.6% (> 6 days) and 20.9% have stopped going to schools after periods started.

- **Gender inequity continues:** Key multiple reasons cited to miss schools/workplaces were ~ don't have availability to period products(42.3%), Health-related issues like cramps, back ache(33.3%), shame or fear due to potential leakage(23.1%), lack of toilets with privacy at schools/workplaces(22.4%) & my family doesn't allow me to go to school/workplaces during periods(21.2%).

- **Ignorance continues around Menstrual Health Management:** 72.9% of them have fallen ill due to periods-related issues and 60.9% sought no medical help at all. This led to various medical & health-related issues like UTI, heavy bleeding, bleeding between periods, inconsistent periods etc.

- **Menstrual taboos & patriarchy continues:** 84% of menstruators said they have multiple restrictions placed on them due to taboos associated with periods. In fact, some restrictions are considered normal way of life, like not entering a temple or walking into a kitchen. These were ~ Don't enter the temple (74.6%), Don't enter the kitchen (48.5%), Don't eat, move freely or live in the house(17.7%), don't bathe (4.3%).

- **The road to equality & freedom:** After using period products, menstruators cited both rational and emotional reasons. Rational reasons cited were ~ 56.8% feel safe and comfortable, 25.6% said they can go back to my workplace / school even during periods. Emotional reasons cited were ~ 37.4% liked the freedom to step out any time, 16.5% have got control back in my life and 16.2% feel empowered to achieve their dreams in life

#### 4. Investment By Menstruators And Menstrual Health Investment Index of India as a percentage of GDP Per Capita

After speaking to girls and women across urban cities and villages, here's a summary of period products usage patterns and investment made.

Girls living urban cities in higher income segments change pads more frequently. Over their lifetime, high income menstruators use about 15,500 sanitary pads, while those from lower income groups use about 6,600 sanitary pads. Pads on an average cost between Rs 5 to 9, based on prices of popular brands like Whisper or Stayfree.

	Higher income	Lower income
Pads used p.m.	35	15
Pads changed after x hrs	3.4	8.0
Months per year	12	12
Pads used annually	420	180
Total menstruation years in a lifetime	37	37
Total pads used in lifetime	15,540	6,660
Cost / pad (Rs.)	9	6
Monthly investment (Rs.)	315	90
Annual investment (Rs.)	3780	1080
Total Present value of investment in a lifetime	1,39,860	39,960
Avg price increase annually	3%	3%
Total investment over lifetime (Rs.)	4,17,514	1,19,290

**Basis my estimates, women living in urban areas with high income would spend Rs 4,17, 514 (~ \$ 5,567), while those living in rural areas with low incomes would spend about Rs 1,19,290 (~ \$ 1,591) over their menstruating lifetime.**

**Further, I did analysis what would be the cost of menstrual health management as a percentage of GDP per capita.** We can call it the **"Menstrual Health Investment Index as a % of India's GDP per capita."** Basis my analysis, India's GDP / capita in urban areas is \$ 3860, while that in rural areas is \$ 1410. The annual menstrual health costs are \$ 50 in urban areas, while its \$ 14 in rural areas. This translates into menstrual health investment index as a percentage of GDP/capita of 1.3% in urban areas and 1.0% in rural areas.

#### Menstrual Health Management Cost As A Percentage Of GDP Per Capita

	Urban	Rural	Remarks
<b>% of GDP contribution by Urban vs Rural</b>	60%	40%	
<b>Population</b>	35%	65%	
<b>Population in Mn</b>	492	899	1,391 Mn total population
<b>India GDP ( \$ 3.17 Trillion ) in Trillion \$</b>	1.9	1.27	\$ 3.17 Trillion
<b>India's average GDP/capita \$ 2277 p.a.</b>	3860	1410	\$ 2277 p.a.
<b>Annual Menstrual Product investment \$ (@ Rs 75)</b>	50	14	
<b>Menstrual Health investment index as a % of India's GDP/capita</b>	1.3%	1.0%	

Population, GDP sources: Niti Aayog, World Bank

As per RubyCup, the Menstrual Health Cost Index states that a yearly supply of pads in Switzerland corresponds to approximately 0.04% of the Swiss GDP per capita whereas in Kenya it's 1.1% and in Uganda its 3.1%.

According to my research, an average 5-day period costs may vary between Rs 90 to Rs 315, depending upon where you live, frequency of changing and affordability. With an average Rs 169 monthly investment over menstrual products and a national-level minimum wage varying between Rs 225 to 500 depending upon different states, the cost of menstrual products can vary between 34% to 75% of daily earnings, leading both rural and urban poor women to choose unsafe and unhygienic methods or simply stop going out during menstruating days.

**Reusable pads typically cost Rs 150-200 and with an investment for 5 pads, that can last for 2 years, they cost only about 19% of disposable sanitary pads' costs consumed over the same time-period. Similarly, the reusable menstrual cup cost Rs 500 and with an investment for 2 cups, that can last for 5 years, they cost only about 9.9% of disposable sanitary pads' costs. Hence reusable menstrual options can reduce period poverty.**

## **5. Implications & Economic Impact On GDP By Providing Menstrual Hygiene Management For All Menstruators And Removing Period Poverty**

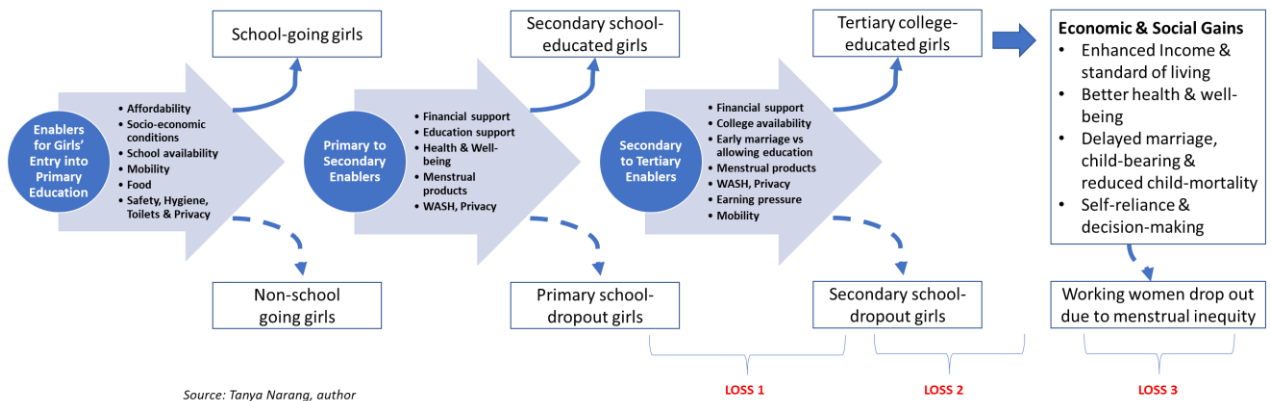
About 20.9% of girls drop out of school altogether upon reaching puberty due to not being able to afford menstrual products, period bullying, getting humiliated by their peers and unable to access clean, private toilets as per my research. Out of the estimated 110 Mn menstruating girls in schools, this translates into nearly 23.1 Mn girls.

As some 56 Mn girls in India miss secondary school every year once they start menstruating, due to multiple reasons, be it menstrual bullying, shame, or period poverty, this translates into about 2 Billion days of lost education.

During work life, women miss out of on an average of 2 days per month due to period poverty. Over the next 22-29 years of work life (depending on when one starts working) till menopause hits, women have missed out between 580 to 850 days of work life due to a variety of reasons – fears of stains, period poverty, restrictions by family or workplace limitations, taboos etc. With a majority of women working in informal sector, where taking leaves means no money, women are left economically poorer and miss out on other opportunities.

**As per World Bank, women with primary education (partial or completed) earn only 14 to 19 % more than those with no education at all. Similarly, women with secondary education can make almost 2 times higher, and women with tertiary education almost 3 times versus with those with no education at all.**

**ENABLERS FOR GIRLS' EDUCATION & KEY BENEFITS**



**In India, my calculation showed that there are broadly 3 types of economic losses due to period poverty:**

1. Loss in income due to dropping out of secondary schools as girls hit puberty
2. Loss in future income due to missing schools & hence inability to complete secondary education & transition to tertiary education
3. Loss in income due to women not being able to go to workplace due to menstrual inequity

For data, I used GDP per capita data, India’s overall GDP and men vs women population numbers from World Bank and various OECD and government data to look at number of women who are not literate, primary, secondary and tertiary educated. I then looked at World Bank study how women with tertiary, secondary & primary education earn 3X, 2X and 1.165X more than with those with no education at all. From there, I arrived at India’s GDP per capita for women with no education, primary, secondary and tertiary education as \$ 1387, \$ 1616, \$ 2775 and \$ 4162 respectively. I then combined this data with my menstrual research data and other reports to calculate economic gains possible if period poverty was removed.

**The first loss is a bigger loss as girls who drop out of schools** are limited in their jobs & opportunities and therefore it reduces their lifetime earning potential. As per my estimates 23.1 Mn girls drop out of schools and this amounts to \$ 35.1 Billion and is equivalent to 1.1% of India’s annual GDP of \$ 3,170 Billion.

This estimate is basis data from various sources(OECD Education, India country statistics)

Education status	% of women population
Girls with no education	29.7%
Girls with primary education	22.2%
Girls with secondary education	35.7%
Girls with tertiary education	12.4%

Had the girls not dropped out of schools, 74.2% would have completed secondary education and 25.8% would have finished tertiary education and would have earned higher.



Using World Bank data that women with education earn higher versus those having lesser education, I then calculated the GDP/capita for women basis their levels of education:

Education status	Earning by girls with education status	GDP/capita \$
Girls with no education	X	1387
Girls with primary education	1.165 X	1616
Girls with secondary education	2X	2775
Girls with tertiary education	3X	4162

The potential gains to GDP had these 23.1 Mn girls continued their education translates into \$ 35.1 Bn and is 1.1% of the India's GDP of \$ 3,170 Tn.

The second loss is due to nearly 24% of education days lost due to period poverty basis consumer research and hence a similar estimated number of girls unable to cope with their studies and unable to transition to tertiary education(graduation in college or university). Girls who finish tertiary education earn higher vs those finishing secondary education(\$ 4162 vs \$ 2775 GDP/capita). With 24% of 110.1 Mn menstruating girls unable to transition to tertiary education, this translates to \$ 37 Bn loss and is equivalent to 1.2 % of India's annual GDP of \$ 3,170 Billion.

The third loss of workplace earnings is based on research findings that 32% women in urban and 57% in rural areas miss work due to period poverty. In urban areas, women miss work 24 days annually and in rural areas, its 72 days annually, basis research survey. As most women are employed in informal sector, no presence at workplace means no earnings. Hence, this translates into 6.86 Mn lost days in workplace earnings. At the rate of \$ 2,177 GDP/capita, it translates into \$ 14.9 Billion and amounts to 0.47% of India's annual GDP.

On an annual basis, the 3 losses adds up to \$ 86.7 Billion and 2.7 % of India's annual GDP.

Over a 37-years menstrual lifetime, this has the potential of adding \$ 3.2 Trillion in GDP gains, which is similar to India's current GDP.

Adding universal & tertiary secondary education for girls would have many other benefits, as per World Bank, like: virtually eliminating child marriage, reducing substantially early childbearing, reducing fertility rates in countries with high population growth, increasing women's decision-making ability and improving women's psychological well-being.

While removing period poverty can add about 2.7% annually, raising women's participation in the labour force to the same level as men can boost India's GDP further by 27 %, as shared by IMF Chief Christine Lagarde and Norway's Prime Minister Erna Solberg in a joint paper released at the World Economic Forum in 2018.

## **6. Conclusion: Menstrual Hygiene Management Is A Strategic Multiplier And Can Up India's GDP By 2.7%**

In India, there are over 400 million menstruators, and an estimated 23.1 million young girls drop out of schools every year basis my research when they start menstruating due to period poverty.

Not being able to afford period products can create conditions that forces girls & women to stay home away from school and work and this can have long-term consequences on their education and economic opportunities.

**By reducing period poverty, India can boost its GDP by 2.7% or \$ 86.7 Billion, as girls and women participate in schools, colleges and workplaces. In fact, removing period poverty has the potential to add \$ 3.2 Trillion in GDP gains, which is the similar to India's current GDP, over a 37-years menstrual lifetime.**

**Menstrual health management is a strategic multiplier and is a compelling business case for all governments and offers predictive and measurable returns on investment and multiple tangible and non-tangible benefits to not only menstruators, but also to the society.**

Period poverty can be removed by multi-stakeholder engagement from individuals, corporates, non-profits and government's collaborative effort. The primary focus has to be mothers, schoolteachers and local Asha health workers and removing period stigmas and ensure that they are made aware about menstrual hygiene management practices. Ensuring privacy, working toilets and WASH conditions and safe disposal are hygiene elements that we need to ensure for menstrual hygiene management. **We must as a society, as individuals, companies, non-profits and government, come together to create awareness, momentum, policy and participate to ensure gender equity and support menstrual health management for all menstruators in India.**

## **7. Bibliography & Citations**

1. "Missed Opportunities : The High Cost of Not Educating Girls." Open Knowledge Repository, <https://openknowledge.worldbank.org/handle/10986/29956>. Accessed 2 Sept. 2022.
2. Hub, IISD's SDG Knowledge. "World Bank Report: Not Educating Girls Costs Countries Trillions | News | SDG Knowledge Hub | IISD." SDG Knowledge Hub | Daily SDG News | IISD, <https://sdg.iisd.org/news/world-bank-report-not-educating-girls-costs-countries-trillions/>. Accessed 2 Sept. 2022.
3. "Breaking the Menstruation Taboo - NielsenIQ." NielsenIQ, <https://nielseniq.com/global/en/insights/report/2016/breaking-the-menstruation-taboo/>. Accessed 2 Sept. 2022.
4. "Dasra | Spot On!: Improving Menstrual Management in India." Dasra, <https://www.dasra.org/resource/improving-menstrual-health-and-hygiene>. Accessed 2 Sept. 2022.
5. "National Family Health Survey (NFHS-5)." District Level Household & Facility Survey, [http://rchiips.org/nfhs/factsheet\\_NFHS-5.shtml](http://rchiips.org/nfhs/factsheet_NFHS-5.shtml). Accessed 2 Sept. 2022.
6. "Menstrual Equity and the Pandemic: It's Time to Take the Gendered Experience Into Account | Columbia Public Health." *Columbia Public Health* |, <https://www.publichealth.columbia.edu/public-health-now/news/menstrual-equity-and-pandemic-its-time-take-gendered-experience-account>. Accessed 3 Sept. 2022.

7. “‘A Culture of Silence Around the Issues of Menstruation Needs To Be Broken’ | Columbia Public Health.” *Columbia Public Health* |, <https://www.publichealth.columbia.edu/public-health-now/news/culture-silence-around-issues-menstruation-needs-be-broken>. Accessed 3 Sept. 2022.
8. “Menstrual Product Insecurity Resulting From COVID-19–Related Income Loss, United States, 2020 | AJPH | Vol. 112 Issue 4.” *American Journal of Public Health*, <https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2021.306674>. Accessed 3 Sept. 2022.
9. “GDP (Current US\$) - India | Data.” *World Bank Open Data | Data*, <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=IN>. Accessed 3 Sept. 2022.
10. “GDP per Capita (Current US\$) - India | Data.” *World Bank Open Data | Data*, <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=IN>. Accessed 3 Sept. 2022.
11. “Rural Population (% of Total Population) - India | Data.” *World Bank Open Data | Data*, <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=IN>. Accessed 2 Sept. 2022.
12. “Cities as Engine for Growth.” *Https://Www.Niti.Gov.In*, Niti Aayog, <https://www.niti.gov.in>. Accessed 3 Sept. 2022.
13. “India’s Education Sector.” *India Brand Equity Foundation*, <https://www.ibef.org/industry/education-sector-india>. Accessed 3 Sept. 2022.
14. “Population, Female (% of Total Population) - India | Data.” *World Bank Open Data | Data*, <https://data.worldbank.org/indicator/SP.POP.TOTL.FE.ZS?locations=IN>. Accessed 3 Sept. 2022.
15. “Education GPS - India - Overview of the Education System (EAG 2021).” *Education GPS - OECD*, <https://gpseducation.oecd.org/CountryProfile?primaryCountry=IND&treshold=10&topic=EO>. Accessed 3 Sept. 2022.
16. | Written By: Saptarshi Dutta |. Edited By: Sonia Bhaskar. “23 Million Women Drop Out of School Every Year When They Start Menstruating In India | Women’s Day.” NDTV-Dettol Banega Swasth Swachh India, Swachh India NDTV, 28 May 2018, <https://swachhindia.ndtv.com/23-million-women-drop-out-of-school-every-year-when-they-start-menstruating-in-india-17838/>.
17. “Period Poverty Impact on the Economic Empowerment of Women.” OpenDocs Home, <https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14348>. Accessed 2 Sept. 2022.
18. “1 In 5 Australians Forced To ‘Improvise’ On Period Products.” Share the Dignity, <https://www.sharethedignity.org.au/blog/period-pride-report-bloody-big-survey-findings>. Accessed 2 Sept. 2022.
19. Bahora, Mynte. “Would Your Period Be Cheaper If You Lived in Another Country?” Ruby Cup | Menstrual Cup – Ruby Cup EU, Ruby Cup EU, 2 May 2019, <https://rubycup.com/blogs/news/would-your-period-be-cheaper-if-you-lived-in-another-country>.
20. Diamond, Claire. “Period Poverty: Scotland First in World to Make Period Products Free - BBC News.” *BBC News, BBC News*, 15 Aug. 2022, <https://www.bbc.com/news/uk-scotland-scotland-politics-51629880>.
21. Group, World Bank. “Menstrual Health and Hygiene.” *World Bank, World Bank Group*, 18 May 2022, <https://www.worldbank.org/en/topic/water/brief/menstrual-health-and-hygiene#>.

22. "Petition · Pass a Law to Get #Pads4All Menstruators in India · Change.Org." Change.Org, <https://www.change.org/p/pass-a-law-to-get-pads4all-menstruators-in-india>. Accessed 2 Sept. 2022.
23. "India Number of Students: Secondary School: Girl | Economic Indicators | CEIC." Global Economic Data, Indicators, Charts & Forecasts | CEIC, CEICdata.com, <https://www.ceicdata.com/en/india/number-of-students-secondary-school/number-of-students-secondary-school-girl>. Accessed 2 Sept. 2022.
24. "Indian Sanitary Napkin Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027." MarketResearch.Com: Market Research Reports and Industry Analysis, IMARC Services Pvt. Ltd., 14 Apr. 2022, <https://www.marketresearch.com/IMARC-v3797/Indian-Sanitary-Napkin-Trends-Share-31292555/>.
25. "Menstruation and Human Rights - Frequently Asked Questions | United Nations Population Fund." United Nations Population Fund, <https://www.unfpa.org/menstruationfaq#>. Accessed 2 Sept. 2022.
26. "Nine in Ten Girls Fear 'Period Shaming' | Tes Magazine." Tes Magazine, <https://www.tes.com/magazine/archive/nine-ten-girls-fear-period-shaming>. Accessed 2 Sept. 2022.
27. Panda, Sushmita. "Popularity and Usage of Menstrual Cups Have Increased after the Pandemic: Experts | The Financial Express." Business News: Business News India, Business News Today, Latest Finance News, Business News Live - The Financial Express | The Financial Express, 26 July 2022, <https://www.financialexpress.com/healthcare/news-healthcare/popularity-and-usage-of-menstrual-cups-have-increased-after-the-pandemic-experts/2606443/>.
28. "Phthalates, Bisphenols, Parabens, and Triclocarban in Feminine Hygiene Products from the United States and Their Implications for Human Exposure - ScienceDirect." ScienceDirect.Com | Science, Health and Medical Journals, Full Text Articles and Books., <https://www.sciencedirect.com/science/article/pii/S0160412019333859?via%3Dihub>. Accessed 2 Sept. 2022.
29. "Resources Database | MHDDay." MHDDay | Global, <https://menstrualhygieneday.org/resources-on-mhm/resources-mhm/>. Accessed 2 Sept. 2022.
30. "Rural Population (% of Total Population) - India | Data." World Bank Open Data | Data, <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=IN>. Accessed 2 Sept. 2022.
31. "Tampon Market Share, Size, Growth, and Industry Report 2022-2027." Market Research Company, Market Research Reports and Consulting Services, <https://www.imarcgroup.com/tampon-market#:~:text=Market%20Overview%3A,6.13%25%20during%202022%2D2027>. Accessed 2 Sept. 2022.