Growth potential of the menstrual hygiene market in Invest for Jobs countries

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'Growth Potential of the Menstrual Hygiene Market in Invest for Jobs Countries'

On behalf of:
German Federal Ministry for Economic Cooperation and Development (BMZ)

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About this study

The study 'Growth Potential of the Menstrual Hygiene Market in Invest for Jobs Countries' was commissioned in the year 2023 by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH from Dalberg Advisors in the context of Invest for Jobs. This following report outlines the key findings, including key insights from the cross-country analysis and deep dive studies of Egypt, Ethiopia, Ghana, and Rwanda based on their menstrual hygiene market, policy environment and investment climate. It serves as the basis for the development of business-case opportunities that Invest for Jobs can pursue to attract private investment and create good jobs in the menstrual hygiene sector in Africa. All currencies quoted are in US dollars.

About Invest for Jobs

Under the Invest for Jobs brand, the German Federal Ministry for Economic Cooperation and Development (BMZ) has put together a package of measures to support German, European and African companies engaging in Africa. The Special Initiative "Decent Work for a Just Transition" – the official title – aims to team up with companies to create good jobs and to improve working conditions and social protection in its eight African partner countries: Côte d'Ivoire, Egypt, Ethiopia, Ghana, Morocco, Rwanda, Senegal and Tunisia. TheSpecial Initiative is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH among others. Further information is available at www.invest-for-jobs.com.

Executive summary

Across Invest for Jobs countries, limited access to Menstrual Health Management (MHM) affects diverse areas of women and girls' lives, including their employment opportunities. In the eight Invest for Jobs partner countries 86 million people menstruate every month, approximately a quarter of the total population.[1] This number is expect ed to increase by 26% to 108 million by 2030.[2] However, 31% of those who menstruate lack access to safe menstrual hygiene (MH) products, such as sanitary pads.[3] These gaps are acute in some Invest for Jobs countries. In Rwanda, only 30% of women and girls have access to menstrual products, while only 12% of the population have access to safely managed sanitation services.[4] This is lower than the access levels in other Invest for Jobs countries to menstrual products, e.g. Egypt (80-90%), Ethiopia (40-45%) and Ghana (60-90%).[5]

This lack of access is driven by barriers around product affordability, availability, acceptability and MHM awareness. In Ethiopia, menstrual products remain unaffordable for the majority of women and girls – on average a pad costs $0.10, the same price as in Egypt and Ghana. However, Ethiopia has one of the lowest levels of female income per capita among Invest for Jobs countries. The average woman earns annually $1,995 compared to $3,536 in Egypt. Of this, Ethiopian women spend approximately 1.2% of their annual income on menstrual product purchases on average. This is the highest share among Invest for Jobs countries, e.g. Egypt (0.6%), Ghana (0.3%) and Rwanda (0.7%). In contrast, women in Germany earn annually $46,150 and spend only 0.06% of their annual income on menstrual products.[6] Additionally, menstrual products are not widely available, for example in Rwanda, due to distribution challenges

Training at our partner company *Mela for Her. Photo:* © GIZ and persistent taboos around menstruation. Access is further restricted by the lack of menstrual products of acceptable quality and limited awareness of MHM. All eight Invest for Jobs partner countries have quality standards for disposable sanitary products that define the requirements that products must meet. However, standards for reusables lag further behind, as Ethiopia is the only Invest for Jobs country that has introduced standards for reusable products. The introduction of national quality standards for reusables, that are tailored to the local context, is crucial to enable producers to sell their products at scale. Furthermore, improved knowledge and awareness of MHM can help MH companies grow their sales, by reducing stigma and improving the effectiveness of marketing campaigns.

These gaps have adverse impacts not only on women and girls' life, but also on companies, governments, and their national economy. A study showed, for a company with 1,000 employees, 400 of whom menstruate regularly, a total of 2,752 productive working hours can be lost annually if the employees unexpectedly start their period just once a year.[7] For example in Rwanda, 23% of employed women report missing work as a direct consequence of not having access to menstrual products.[8] In turn, absenteeism due to menstruation can result in lost wages and lower output by firms. This has wider effects on the national economy. Women's workplace absences are estimated to cost Invest for Jobs countries up to $68 billion in gross national income (GNI) annually.[9] To avert these costs, companies in Invest for Jobs countries can therefore look to improve MHM access in the workplace and improve their performance. This then benefits not only the female employees, but also businesses. For example, a textile sector factory in Egypt saw a $4 return for every $1 invested in MH education and product access, by reducing female staff absenteeism and turnover.[10] Similar interventions would be particularly effective for companies in Egypt and Ghana's services sectors, which employ 71% and 55% of working women, respectively.[11] In Rwanda, this would benefit agricultural businesses, as most women (67%) work in the agricultural sector.[12] By enhancing female workforce participation, MHM access can drive country-wide impacts. Across Invest for Jobs countries, increasing women's work attendance each month by one day alone could increase GNI by up to $27 billion. In Egypt and Ethiopia alone, this could increase GNI by $10 billion and $5 billion, respectively.[13]

Beyond employment, a focus on MHM can drive impacts across environmental sustainability, education, and health. Poor MHM also negatively affects education, health, and the environment. Pads typically contain up to 90% plastic. Without adequate waste systems, they end up in landfills, where it takes them 500-800 years to break down.[14] This can have far-reaching impacts, as the average woman uses and disposes of between 50 kg and 150 kg of pads and tampons throughout her life.[15] For comparison, the average person discards approximately 300 toothbrushes in their lifetime,[16] producing only 6 kg of waste.[17]

Increased adoption of reusable and biodegradable menstrual products can help reduce the existing environmental footprint of disposable menstrual products. Disposable menstrual products contribute more than 6% of the sewage-related debris around waterways and beaches[18] and a study in Ethiopia found that 69-78% of women dispose of sanitary pads in latrines.[19] To tackle this problem, companies like *Mela for Her* and *Adey Pads* produce reusable sanitary pads that contribute to reduced material use, plastic pollution, and waste generation.[20]

Access to MHM can also improve girls' school attendance and education outcomes. In Sub-Saharan Africa, every additional year of schooling is associated with a 13.5% increase in earnings later in life.[21] In Ethiopia, this would translate to $12 billion in additional economic output, a 5% increase.[22]

Similarly, improved awareness of MHM can improve women's sexual and reproductive health and pain management.[23] Especially in rural areas, women and girls choose to use cloths rather than packaged menstrual products, as 21% of women living in rural areas in Ghana still use cloths, compared to 4% of women in urban areas. This can have adverse implications for rural women as inadequate products increase the risks of reproductive and urinary tract infections, which can result in infertility, birth complications and maternal mortality. In Ethiopia alone, the economic cost of maternal mortality is estimated at $240 million each year.

Nevertheless, the menstrual product sector has growing market potential and presents a unique opportunity for Invest for Jobs to attract investment and create scalable jobs alongside cross-cutting impacts, particularly in Egypt, Ethiopia, and Ghana. In the last five years, revenues from menstrual product sales have grown by 41% across Invest for Jobs countries.[24] Innovative players seeking to increase women's access to a greater range of more affordable menstrual products are emerging in Africa. In Ethiopia alone, there are 27.5 million people who menstruate,[25] of which 55-60% (16.5 million) still lack access to adequate and affordable menstrual products.[26] Ethiopia has in total nine menstrual products companies of which seven of them are a small-medium enterprises (<250 employees). This presents an opportunity to build the menstrual product sector and create jobs. For example, scaling domestic menstrual product manufacturing in Ethiopia to supply all people who menstruate with purpose-made products could create approximately 2,500 new jobs in a baseline scenario where 5% of people who menstruate use reusable menstrual products. In a scenario where 25% of people who menstruate use reusable menstrual products, up to 3,600 new jobs could be created.[27] Supporting local distributors of menstrual products to scale operations, could create 500-2,000 jobs in an Invest for Jobs country within two years.[28] For example, *Healthy Entrepreneurs*, a last-mile distribution business that sells health products including menstrual products, currently employs 15,000 sales agents to serve customers in rural communities across East

Africa. In 2022, they launched operations in Burundi and are on track to hire over 2,500 sales agents by the end of 2023.[29]

Also, Egypt has a large population, with 27.3 million people who menstruate combined with a large and growing menstrual product sector worth $597 million in annual sales.[30] However, high levels of social stigma around menstruation persist in the country. Improved knowledge and awareness of MHM can help menstrual product companies grow their sales, by reducing stigma around menstruation and improving the effectiveness of marketing campaigns. However, projected growth is more pronounced in Egypt's reusables segment, as the number of people who menstruate that use reusable menstrual products is expected to grow by 23% between 2019 and 2030, from 1.1 million to 1.3 million.

Ghana has a dynamic, high-potential menstrual product sector with four social enterprises (three of which focus on reusable products) and seven large producers of disposable menstrual products,[31] as well as low levels of stigma relative to Egypt and Ethiopia.[32] Similarly, the growth in the number of people who menstruate using reusable menstrual products is projected to increase by 28% between 2019 and 2030.

This projected growth, and the job creation potential that will come with it, is likely to be driven by growing awareness, rising incomes, and ongoing policy progress.

The menstrual product sector has scalable growth and job-creation potential, provided that demand for menstrual products continues to grow, local menstrual product manufactures are enabled to prosper, and governments advance MH policy and reusable product quality standards that enable innovative companies to certify their products and sell them at scale. Government actions to promote the growth of MH markets (including MHM-related policies, product quality standards and tax regulations) are critical drivers of commercial actors' willingness to enter MH markets and scale.

Growth potential of the menstrual product market in Invest for Jobs countries

To identify the Invest for Jobs countries with the greatest potential for menstrual product sector growth and job creation, Dalberg Advisors prioritised countries based on their menstrual product market, policies, and investment climate. These dimensions were identified as the strongest predictors of menstrual product market growth. Within each dimension, Dalberg selected a sub-set of indicators to assess countries on. Menstrual product market trends covered the drivers of demand (total addressable market, levels of unmet needs, stigma) and supply (current market activity, sector size, growth) to estimate future growth potential. MHM policies included actions taken by governments to promote menstrual product sector growth and commercial investments through MHM-related policies, and the presence of taxes and standards for menstrual products. The investment climate was evaluated based on income levels, trade openness, workforce skills, taxes, and corruption levels. For each dimension, countries were given a score out of four and ranked based on their average score across dimensions. Based on this analysis, Egypt, Ethiopia, and Ghana were identified as the most attractive markets for menstrual product sector growth and job-creation potential. A further deep dive analysis was conducted on Rwanda.

Egypt, Ethiopia, and Ghana's menstrual product sectors have the greatest growth potential among Invest for Jobs countries, based on their menstrual product market trends, policy environment and investment climate. Ghana demonstrates significant menstrual product market potential, with a dynamic menstrual product sector, comparatively low stigma around menstrual health,[33] a conducive private investment climate and a track record of government efforts to increase MHM access. Egypt's menstrual product market potential stems from its large addressable market with 24.9 million people who menstruate,[34] the growth of its menstrual product sector as well as a favourable investment climate, although MHM policy progress has largely been absent. Additionally, Ethiopia presents an opportunity to scale access to menstrual products with a large female population that is currently underserved by the existing menstrual product market, as well as a favourable MHM policy environment. However, Ethiopia's investment climate may prove more challenging than Egypt and Ghana's due to foreign currency restrictions[35] and high corporate taxes of 30%,[36] which pose barriers to foreign investments and the expansion of domestic enterprises. The subsequent sections show how 'the Invest for Jobs' countries were ranked across each of the three *dimensions.*

Employees of our partner company *Mela for Her* producing reusable sanitary pads. Photo: © GIZ

The menstrual product market

Across each dimension, countries display different strengths. The menstrual product market in Egypt and Ghana is the most attractive, followed by Morocco across a range of indicators. Egypt has a large population, with 24.9 million people who menstruate combined with a large and growing menstrual product sector worth $597 million in annual sales.[37] However, high levels of social stigma around menstruation persist in the country. Ghana has a dynamic, high-potential menstrual product sector with four social enterprises (three of which focus on reusable products) and seven large producers of disposable menstrual products,[38] as well as low levels of stigma relative to Egypt and Ethiopia.[39] While Morocco also has a large MHM market with eight active companies,[40] revenue growth over the last five years has been slower than in other Invest for Jobs countries, at just 23% relative to 41% across all Invest for Jobs countries.[41] This is likely driven by high levels of stigma and 20% VAT on menstrual products[42] (the highest among Invest for Jobs countries), which tempers demand for new products, alongside high corporate taxes (31% versus 25% across other Invest for Jobs countries)[43]. Figure 1 provides further details.

Figure 1: Overview of menstrual product market indicators across Invest for Jobs countries[44]

Countries	Menstrual product market (average score across indicators)	Level of menstrual product access	Women of reproductive age	Level of stigma	No. of menstrual product companies	Total revenue in menstrual product sector	Revenue growth in menstrual product sector
Côte d'Ivoire	2.7	2	2	2	4	2	4
Egypt	3.2	3	4	1	1	4	4
Ethiopia	2.8	1	4	2	4	4	1
Ghana	3.2	3	3	3	4	3	3
Morocco	3	4	3	2	4	3	1
Rwanda	2.2	1	1	3	4	1	3
Senegal	1.8	2	2	2	2	1	2
Tunisia	2	3	1	3	1	2	2

Countries were scored on a scale of 1 to 4, with 4 being the most favourable for menstrual product market potential and 1 being the least favourable.

Key: 4 = 3 = 2 = 1 =

Menstrual health management policy

In terms of MHM policy, Ethiopia and Rwanda have made the most progress. Government actions to promote the growth of menstrual product markets (including MHM-related policies, product quality standards and tax regulations) are critical drivers of commercial actors' willingness to enter menstrual product markets and scale. In Ethiopia, the VAT applied to menstrual products is 10%, which is lower than the standard VAT rate of 15% in the country.[45] MHM is mentioned across several national policies, including a WASH Health National Program, a health extension program and the National Hygiene and Environmental Health Communication Guideline.[46] Ethiopia has also recently become one of the first governments in Africa to introduce a national quality standard for reusable sanitary pads, in addition to existing specifications for disposable pads.[47] While there are no explicit MHM policies in place in Rwanda, the Ministry of Education has initiated 'girls' rooms' in all schools, which are designed to be equipped with sanitary pads, painkillers and a bed.[48] As of 2019, 57% of primary, and 82% of secondary schools were equipped with these rooms.[49] Furthermore, menstrual health products in Rwanda are exempt from VAT, which increases product affordability for women.

Figure 2: Overview of MHM policy indicators across Invest for Jobs countries[50]

Countries	Menstrual product policies (average score across indicators)	Overall policy	Quality standards	Taxation
Côte d'Ivoire	2.3	3	2	2
Egypt	2	1	2	3
Ethiopia	3.3	3	3	4
Ghana	2.7	3	2	3
Morocco	1.7	2	2	1
Rwanda	3	3	2	4
Senegal	2	2	2	2
Tunisia	1.3	1	2	1

Countries were scored on a scale of 1 to 4, with 4 being the most favourable for menstrual product market potential and 1 being the least favourable.

Key: 4 = 3 = 2 = 1 =

Investment climate

Ghana and Tunisia have the most favourable overall investment climate, followed by Egypt. Economy-wide factors, including income levels, trade openness, workforce skills, taxes, and corruption levels, have a strong bearing on the willingness of companies to invest in target markets. Among Invest for Jobs countries, Tunisia demonstrated a conducive investment climate across all selected indicators, with the second-highest GDP per capita after Egypt among Invest for Jobs countries ($11,594 versus an average of $6,754 across Invest for Jobs countries)[51] and high levels of trade openness, with trade making up 92.3% of the country's GDP. Corruption and corporate tax rates (15%) are low compared to other Invest for Jobs countries, while Tunisia's workforce skills score of 60, on a scale of 1 (low skill) to 100 (high skill) is the highest among all Invest for Jobs countries.[52] Ghana also presents a favourable investment climate across all indicators and consistently outperforms all other Invest for Jobs countries in Sub-Saharan Africa. For example, it has the highest GDP per capita among Invest for Jobs countries in Sub-Saharan Africa ($6,178 versus $4,196 across Côte d'Ivoire, Ethiopia, Ghana, Rwanda, and Senegal).[53] Finally, Egypt has the highest GDP per capita among Invest for Jobs countries ($13,316),[54] a skilled workforce and low corporate taxes (22.5%).[55] However, its restrictive trade policies and corruption levels (the highest among SI countries) may create barriers to doing business.

Figure 3: Overview of investment climate indicators across Invest for Jobs countries[56]

Countries	Investment climate (average score across indicators)	GDP per capita	Trade openness	Workforce skills	Corporate tax	Level of corruption
Côte d'Ivoire	2	2	2	2	3	1
Egypt	2.8	4	1	4	4	1
Ethiopia	1.4	1	1	1	2	2
Ghana	3	3	3	3	3	3
Morocco	2.6	3	4	3	1	2
Rwanda	2	1	2	1	2	4
Senegal	2.4	2	3	2	2	3
Tunisia	4	4	4	4	4	4

Countries were scored on a scale of 1 to 4, with 4 being the most favourable for menstrual product market potential and 1 being the least favourable.

Key: 4 = 3 = 2 = 1 =

Country deep dives

Based on the assessment of countries' menstrual product market trends, policy environment and investment climate, Egypt, Ethiopia, and Ghana were selected for a deep dive analysis conducted by Dalberg Advisors and WASH United. An additional deep dive analysis was also conducted for Rwanda.

The following section provides details on the growth and job-creation potential in each country. For each, it evaluates:

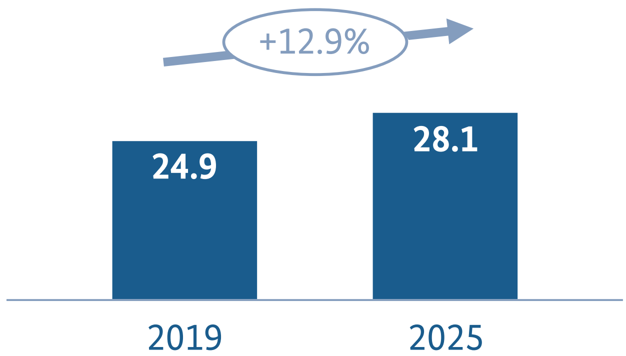
1. Consumer demand for menstrual products
2. Existing supply of menstrual products including key players and their market share
3. Policy environment, specifically for menstrual product companies
4. Projected growth of the menstrual product sector

Egypt

Consumer base

Egypt has a large, growing consumer base for menstrual products and high MHM access. It has an estimated 24.9 million people who menstruate,[57] representing 24% of the country's population.[58] This is expected to grow by approximately 13%, to 28.1 million by 2025.[59] With high levels of access to safely managed sanitation services, 66% relative to 13% in Ghana and 7% in Ethiopia,[60] and a high-income population with a GDP per capita of $13,316 versus an average of $6,754 across Invest for Jobs countries,[61] the majority of women in Egypt have access to menstrual products (80-90%).[62] This is high relative to other Invest for Jobs countries (e.g. 40-45% in Ethiopia).[63] Among Egyptian women, approximately 5% use reusable menstrual products.[64] Women earn an average annual income of $3,536 of which they spend 0.64% on menstrual products. In contrast, women in Germany earn $46,150 and only spend only 0.06% of their annual income on menstrual products.[65]

Figure 4: Total number of people who menstruate, 2019 vs. 2025 (Million)[66]



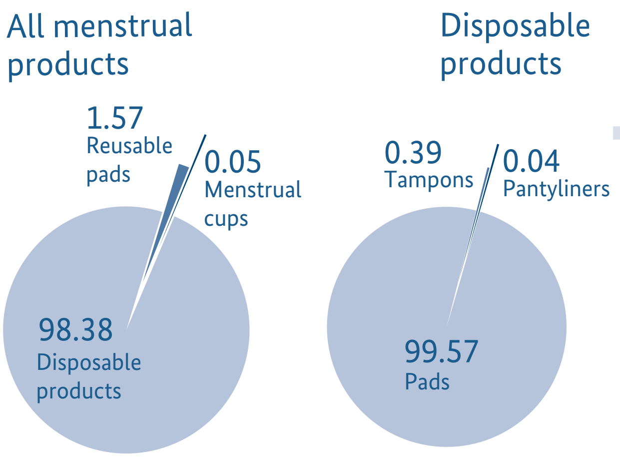
Egypt's high access levels are driven by a competitive domestic menstrual product sector and by urbanisation. Egypt is the largest exporter of menstrual product products in Africa,[67] with four key manufacturers of disposable products, including *Procter & Gamble (P&G)*, which produces in and exports from Egypt.[68] The presence of strong domestic manufacturing reduces production costs and increases the affordability of menstrual products for Egyptian consumers. Furthermore, Egypt has a large, relatively high-income population, with a higher GNI per capita ($3,536) than the top quartile of African nations and most Invest for Jobs countries (e.g., $1,990 in Rwanda and $2,248 in Senegal),[69] further enabling high menstrual product use. This is particularly true for urban areas that contain 43% of the total population,[70] where women have higher incomes, education levels, knowledge around MHM and access to various types of products.[71]

Although stigma around menstrual health persists, changing social norms are leading to better access to menstrual products. Marketing campaigns by brands and influencers raising awareness around menstruation and product choice are actively contributing to reducing stigma and cultural barriers.[72] As a result, this helps generate more demand for menstrual products and contributes to growing sales of menstrual products. However, education and knowledge around MHM and access to menstrual products remain more limited in rural regions, which are harder to reach for both NGOs and companies. This issue is exacerbated by fewer NGOs and organisations working on MHM in Egypt relative to other Invest for Jobs countries.[73]

Existing market

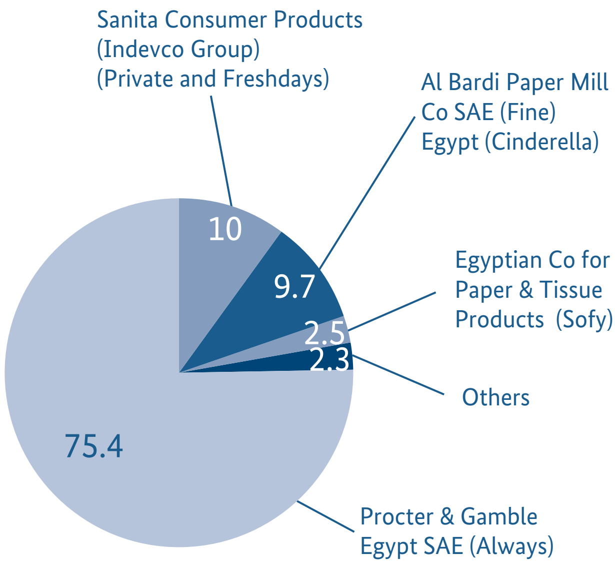
Egypt's menstrual product market has been growing at a steady rate, with reusables accounting for a minority of total sales. Between 2016 and 2021, disposable product sales have grown by 32%, with more than 99% of sales among disposables originating from sanitary pads.[74] Furthermore, the total volume of menstrual product sales in Egypt amounts to $597 million per annum,[75] relative to sectors with similar supply chains such as paper tissue and toilet paper sales, which generate $121 million and $750 million each year, respectively.[76] This is large in comparison to other Invest for Jobs countries (e.g., Ethiopia $227 million, Ghana $134 million).[77]

Figure 5: Share of retail sales of menstrual products, by product type, in %[78]



Within Egypt's menstrual product market, *P&G* has the largest market share, followed by three domestic brands that almost exclusively sell disposable pads. *P&G* maintains a dominant position in Egypt's market, although their brand *Always* is more expensive than national brands. An *Always* pad costs $0.15 compared to domestic brands, which cost $0.10 on average.[79] Among domestic producers, *Sanita* is the market leader in Egypt, producing two brands of disposable menstrual products (*Private* and *Freshdays*) alongside other hygiene and household products.[80] Egypt's reusable sector represents under 2% of the overall market, although some SMEs such as *Shemsi*, which produces period panties, are emerging.[81]

Figure 6: Manufacturer (brand) shares of disposable menstrual products sold (2021), in %[82]



Enabling environment

Domestic taxes in Egypt are low and incentivise the expansion of local menstrual product companies. Low corporate taxes (22.5%) for domestic and international companies[83] relative to other Invest for Jobs countries and a 14% VAT on menstrual products in Egypt,[84] (compared to 20% in Morocco and 19% in Tunisia) incentivise the growth of local menstrual product companies and contribute to sales growth and job creation.

However, import duties, access to finance and a lack of product standards remain challenges. Egypt's 60% import duty on menstrual products is one of the highest among Invest for Jobs countries.[85] While it does not apply to imports from the European Union (EU) and Turkey, which contribute 84% of sanitary pad imports, this limits the entry of international players and access to inputs that cannot be produced locally.[86] New companies also report that access to finance is a barrier, as they encounter difficulties borrowing from banks and collecting payments from clients.[87] Lastly, although Egypt does not have national quality standards for menstrual products that define product specifications to ensure they are fit for purpose, companies can be certified by ARSO (African Organisation for Standardisation) for disposable sanitary pads.[88] National standards on reusables, if introduced, would allow companies to certify their product quality, sell them to commercial clients (e.g., supermarkets) at scale and strengthen their brand with end customers.[89]

Growth potential

Menstrual product sales are forecast to grow steadily, with the use of reusables rising at a faster rate. Between 2022 and 2026, disposable menstrual product sales are projected to grow by 10%[90] ($58 million),[91] relative to a 5% projected growth in toilet paper sales in the same period.[92] This is lower than the corresponding growth rate for the menstrual product market in Ghana (29%).[93] Projected growth is more pronounced in Egypt's reusables segment, as the number of people who menstruate that use reusable menstrual products is expected to grow by 23% between 2019 and 2030, from 1.1 million to 1.3 million.[94]

Figure 7: Projected compound growth of disposable menstrual product sales (2022-2026), in %[95]

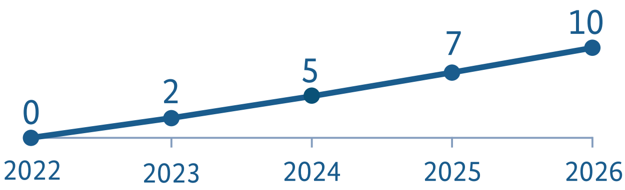
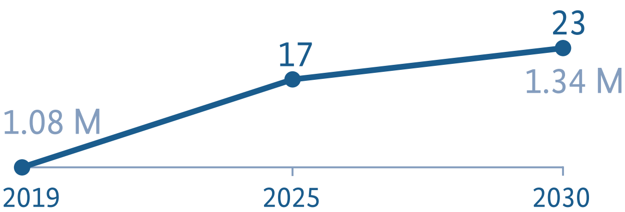


Figure 8: Projected compound growth in the number of people who menstruate using reusable menstrual products (2019-2030), in %[96]



Population-and GDP-driven growth: 'Base case' scenario, which assumes overall usage increases in line with expected population and GDP growth but disposable/reusables' market share does not change, though it is likely to increase over time.

Drivers of market growth include growing incomes, urbanisation, online sales and rising MHM awareness. Only 20% of Egyptian women aged 15-64 are active in the labour force (4.4 million) compared to 68% of men (23 million),[97] and the majority of working women (71%) are employed in the services sector.[98] Nevertheless, the share of female salaried workers grew by 3% in 2022.[99] This trend is likely to increase women's incomes and financial independence and in turn demand for menstrual products.[100] Furthermore, market research suggests that an increase in the urban population from 43% to 51% by 2041 may lead to a growing demand for and access to menstrual products.[101] The rise of e-commerce in Egypt also facilitates the distribution of menstrual products. Online sales of menstrual products have continued to rise in 2021 after Covid-19 restrictions were lifted, and overall e-commerce sales are projected to grow 74% between 2023 and 2027 (from $7.5 billion to $13.1 billion).[102] Lastly, progress around MHM awareness remains slower than in other African markets given the relative absence of MHM-focused NGOs and government initiatives. Nevertheless, marketing campaigns are contributing to a gradual increase in MHM awareness and reusable product uptake.[103] Building on this growth, companies in Egypt can look to provide menstrual products to women to improve their work attendance and company performance. For example, an Egyptian textile factory that provided MH education and products to employees, saw a $4 return for every $1 invested from reduced absenteeism and increased turnover.[104] At the national level, similar interventions can have far-reaching economic impacts. Spending $23 to provide just one woman in Egypt with products for a year would increase GNI by $204 by reducing her menstruation-related workplace absences by one day each month. At a national level, this would mean generating $11 billion in GNI growth.[105]

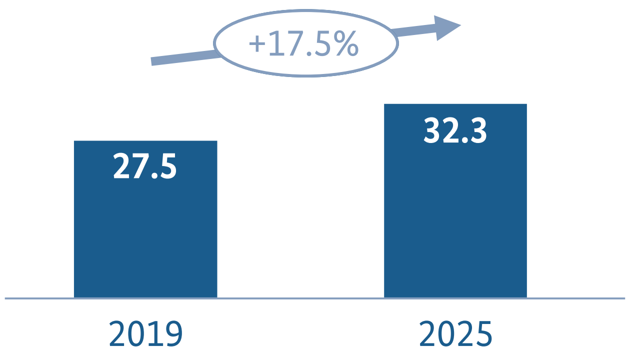
Sewing pads. Photo: © GIZ

Ethiopia

Consumer base

While Ethiopia has a large female population, access to menstrual products remains low relative to other Invest for Jobs countries. It has an estimated 27.5 million people who menstruate,[106] representing 24% of the country's population.[107] This is expected to grow by 17.5%, to 32.3 million by 2025.[108] Despite this population growth, access to purpose-made menstrual products remains low, with only 40-45% of women with access to menstrual products.[109] This is lower than the access levels in other Invest for Jobs countries, e.g. Egypt (80-90%) and Ghana (60-90%).[110] Furthermore, only a small portion of the population in Ethiopia has access to safely managed sanitation services: 7% relative to 13% in Ghana and 66% in Egypt.[111] This can affect girls' education, as providing separate sanitation facilities can increase girls' school enrolment by up to 15%.[112]

Figure 9: Total number of people who menstruate, 2019 vs. 2025 (Million)[113]



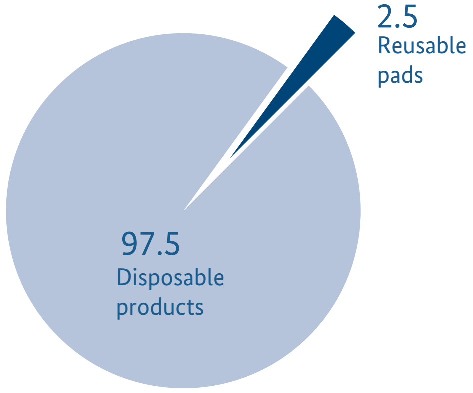
Gaps in MHM access are driven by challenges around product affordability, availability, and persistent stigma around menstruation. In Ethiopia, menstrual products remain unaffordable for the majority of women – on average a pad costs $0.10, the same price as in Egypt and Ghana. However, Ethiopia has one of the lowest levels of female income per capita among Invest for Jobs countries. The average woman earns $1,995 compared to $3,536 in Egypt.[114] Of this, Ethiopian women spend approximately 1.2% on menstrual product purchases on average, the highest share among Invest for Jobs countries.[115] Rural incomes are even lower at just $397 each year,[116] meaning that rural women would need to spend on average 6% of their income on menstrual products. Especially in rural areas women and girls choose to use cloths rather than packaged menstrual products, as 80% of menstrual product distribution within Ethiopia has remained in urban areas.[117] This can have adverse implications for rural women as inadequate products increase the risks of reproductive and urinary tract infections, which can result in infertility, birth complications and maternal mortality. In Ethiopia alone, the economic cost of maternal mortality is estimated at $240 million each year.[118] Additionally, menstrual products are not widely available in Ethiopia, because of the conflict in Tigray and the logistical challenges of distribution to rural areas. Foreign currency shortages due to government restrictions on the use of foreign currency for imports[119], and the persistent depreciation of the Ethiopian Birr prevent international firms from importing menstrual products or the materials used to manufacture them in-country,[120] while poor transportation infrastructure affects product distribution. Affordability and availability challenges are exacerbated by the stigma around menstruation, which inhibits women and girls from seeking information and support.[121]

Despite these barriers, Ethiopia's rapid urbanisation combined with high female labour force participation may stimulate demand for menstrual products, as has been the case in other countries. Between 2010 and 2021, Ethiopia's urban population increased from 17% (15.5 million) to 22% (26.7 million),[122] which has allowed women and girls access to a greater range of products, as well as led to higher incomes with which to purchase them. Given that close to 30% of the Ethiopian population is projected to live in cities by 2028,[123] demand for menstrual products is also expected to rise continuously.[124] In addition, the majority of women in Ethiopia aged 15-64 are in the labour force. At 76% (24 million) Ethiopia has the highest female workforce participation rate among Egypt, Ethiopia, and Ghana.[125] The majority of women (59%) are employed in the agricultural sector, followed by the services sector (32%).[126] As women are increasingly able to pay for menstrual products, this may further stimulate demand and menstrual product sector growth.

Existing market

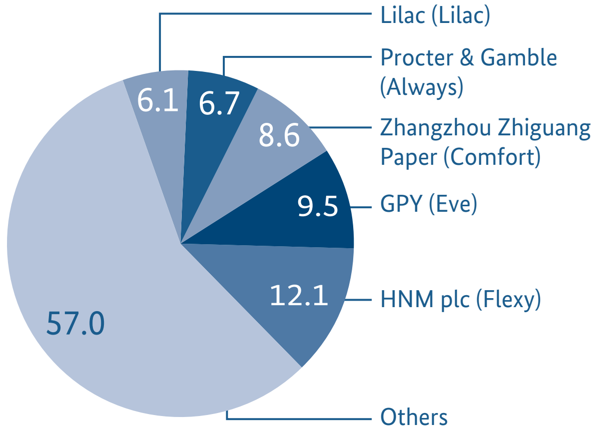
Although Ethiopia's menstrual product sector is smaller than in other Invest for Jobs countries, menstrual product sales have grown rapidly in recent years. Revenues from disposable products (pads, tampons and pantyliners) have increased by 45%, from $16 million to $21 million between 2016 and 2021,[127] and the total value of menstrual product sales is estimated at $227 million per annum,[128] relative to paper tissue or toilet paper sales, which are worth $48 million and $356 million, respectively.[129] While reusable products only account for 3% of the market, the recent introduction of the national quality standard for reusable menstrual products provides a strong foundation for future growth.[130]

Figure 10: Share of retail sales of menstrual products, by product type, in %[131]



Within the sector, sales are fragmented with no one player accounting for more than 15% market share, which could present market entry opportunities for new menstrual product companies.[132] Domestically-manufactured brands *Eve* and *Flexy* are known to be the most popular, given that they are relatively affordable and the most consistently available disposable menstrual products in the market. *P&G* is the only global multinational with a significant market share (6.7%). However, their brand *Always* is more expensive than domestic brands – an *Always* pad costs $0.10 versus an *Eve* pad which costs $0.08.[133] A large share of the market is accounted for by smaller suppliers, which indicates they face barriers to scaling including operational bottlenecks (limited availability of raw materials and distribution capacity) alongside financial bottlenecks (shortage of foreign currency and cash-flow limitations for business).[134] Nevertheless, growing demand coupled with conducive policy changes can unlock growth for existing players and generate opportunities for new entrants to capture a share of the market by introducing new products, such as reusables.

Figure 11: Manufacturer (brand) shares of disposable menstrual products sold (2021), in %[135]



Enabling environment

Ethiopia has recently reformed taxes and standards for menstrual products, making it easier for menstrual product companies to do business and therefore increase job creation. Import duties on sanitary pads and raw materials for locally-produced menstrual products are low relative to other Invest for Jobs countries, at 10% and 0% respectively.[136] The low VAT of 10% (compared to 18% in Senegal and 19% in Tunisia) provides further incentives for companies in the menstrual product sector, reduces the costs of importing and manufacturing menstrual products, as well as tax costs for businesses and end-consumers.[137] Ethiopia has also made significant strides in the development of standards for menstrual products. In addition to introducing quality standards for disposable menstrual products (ES: 6345- Sanitary Pads- Specification-Disposable), the government has become one of the first in Africa to introduce a national quality standard for reusables (ES: 6346- Sanitary Pads- Specification- Reusable), alongside countries including Kenya, Malawi, South Africa, Tanzania and Uganda.[138] This is a unique growth opportunity for the reusables segment, as quality standards will enable producers to certify their products and sell them at scale to commercial clients (e.g., retailers and supermarkets) that typically require certification to sell products. Furthermore, certification will enhance customer trust in the products.[139]

However, access to finance remains a persistent challenge in the country. Access to foreign currency has been a major barrier for domestic companies that operate in Ethiopia and rely on international markets, with businesses encountering delays in foreign exchange supply for up to a year.[140] Additionally, corporate taxes of 30%[141] further limit foreign investment in the country and the expansion of domestic enterprises.

Growth potential

Despite barriers facing the Ethiopian menstrual product market, the number of menstrual product users is expected to grow rapidly, driven by population growth, urbanisation, rising awareness and conducive policy changes. Between 2019 and 2030, the number of women and girls using menstrual products is expected to grow by 33%, from 28 million to 37 million.[142] Ethiopia's rapid population growth is a key driver of this trend. Between 2020 and 2030, the population is projected to grow by 28%,[143] outstripping growth in other Invest for Jobs countries like Egypt and Ghana. The rise in the number of people who menstruate (32.3 million by 2025), coupled with steady migration to towns and cities, is expected to contribute to an increase in menstrual product usage and sales, as well as job creation within the sector. For example, scaling domestic menstrual product manufacturing in Ethiopia to supply all people who menstruate with purpose-made products could create approximately 2,500 new jobs in a baseline scenario where 5% of people who menstruate use reusable menstrual products. In a scenario where 25% of people who menstruate use reusable menstrual products, up to 3,600 new jobs could be created.[144]

Figure 12: Projected compound growth in the number of people who menstruate using disposable menstrual products (2019-2030), in %[145]

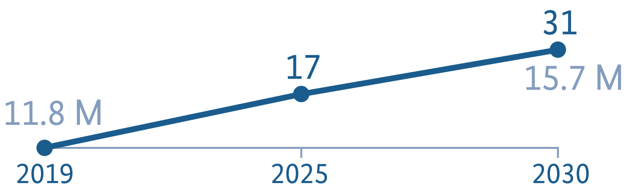
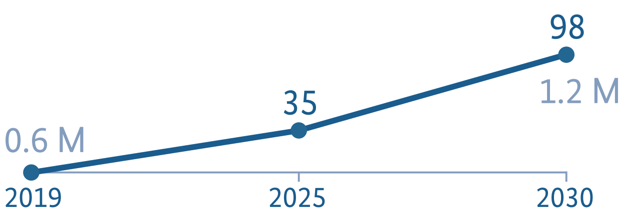


Figure 13: Projected compound growth in the number of people who menstruate using reusable menstrual products (2019-2030), in %[146]

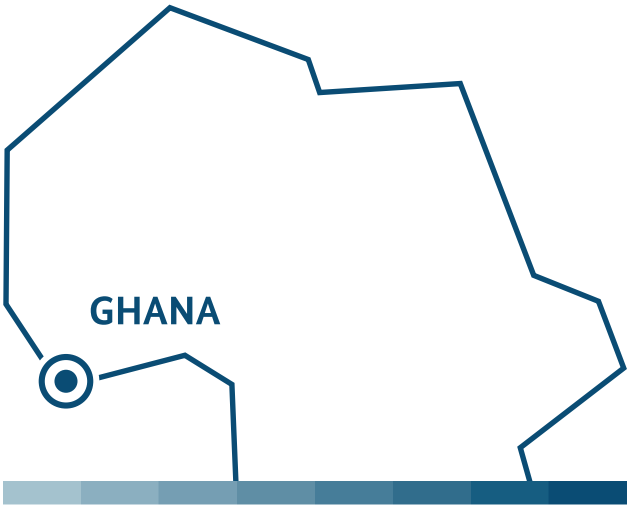


Population-and GDP-driven growth: 'Base case' scenario, which assumes overall usage increases in line with expected population and GDP growth but disposable/reusables' market share does not change, though it is likely to increase over time.

Growth will be further enabled by increased awareness and education about menstruation. Awareness around MHM remains limited in rural areas – only 20% of girls know they should change their pads regularly compared to 32% in urban areas.[147] Nevertheless, organisations like *Population Services International (PSI)* and *Norwegian Church* Aid are actively working on improving MHM education and knowledge, to increase menstrual product uptake.[148] Ethiopian companies can leverage this momentum and provide menstrual products to female staff to reduce workplace absences and improve company performance. For example, in a company of 1,000 employees, the provision of MHM products could lead to an increase of 2,752 productive working hours annually.[149] In turn, similar interventions can generate far-reaching impacts on the economy. Spending $24 to provide just one woman in Ethiopia with menstrual products for a year, would increase GNI by $89 by reducing her menstruation-related workplace absences by one day each month. At a national level, this would mean generating $5 billion in GNI growth.[150] Finally, Ethiopia's policies and standards are expected to promote sector growth. Recently introduced quality standards designed to improve access to menstrual products are projected to improve market competitiveness over the coming years.[151]

Workshop on reusable sanitary pads. Photo: © GIZ.

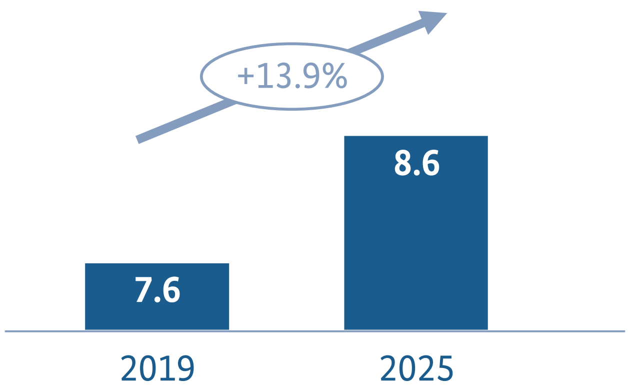
Ghana



Consumer base

A high share of women and girls use menstrual products in Ghana compared to many other Invest for Jobs African countries. Ghana has an estimated 7.6 million people who menstruate,[152] representing 24% of the country's population.[153] This is expected to grow by 14%, to 8.6 million by 2025.[154] Among these women, 60-90% have access to suitable, purpose-made menstrual products such as sanitary pads and tampons, while only 13% of the population have access to safely managed sanitation services.[155] Nevertheless, access levels are high relative to other markets, like Ethiopia where only 40-45% of women have access to menstrual products.[156]

Figure 14: Total number of people who menstruate, 2019 vs. 2025 (Million)[156]



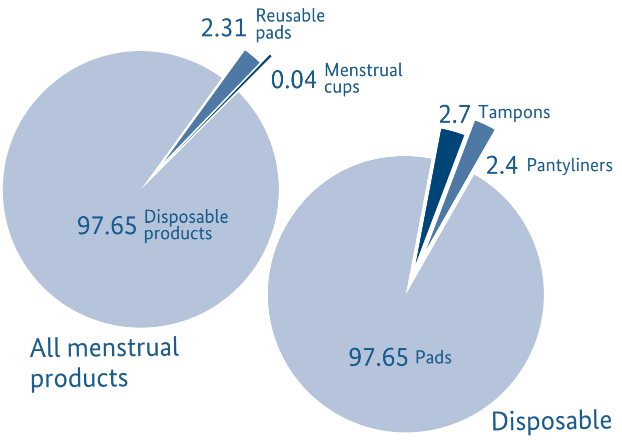
Increasing access to menstrual products in Ghana is enabled by rising incomes. Ghana's GDP per capita is linked to access to menstrual products. With an annual income per capita of $4,732, women in Ghana have a comparatively high ability to pay for menstrual products relative to other markets in Sub-Saharan Africa (e.g., $1,994 in Ethiopia and $1,990 in Rwanda).[157] Ghanaian women spend on average 0.34% of their income on menstrual products. While high relative to 0.06% in Germany, this is the lowest among Egypt, Ethiopia, and Ghana.[158] The majority of women are also employed. In Ghana, 65% of women between the ages of 15-64 are in the labour force (6.2 million), compared to 20% in Egypt (4.4 million),[159] the majority of whom work in the services sector (55%).[160] With rising incomes and socio-economic opportunities, the majority of Ghanaian women (60-90%) have access to menstrual products. Despite this progress, disparities remain. 58% of the total population lives in urban areas,[161] where incomes and product access are generally higher. For example, in 2018 the average annual income in rural areas was $993[162] versus $5,010 at the national level.[163] In light of these income disparities, women in rural areas have greater difficulties in accessing menstrual products and have also felt the negative impacts of recent inflation more keenly.[164] A national survey revealed that 21% of rural women still use cloths to manage their menstruation compared to 4% of women in urban areas.[165]

Ghana's vibrant menstrual product sector and improved social norms around menstruation also contribute to menstrual product uptake. Eleven menstrual product companies make up the majority of the market in Ghana. This includes three social enterprises[166] and seven large producers of disposable menstrual products.[167] Significant progress has also been made in reducing stigma and increasing awareness around menstruation, driven by various efforts including NGO awareness campaigns and government initiatives in schools.[168] As a result, women and girls are increasingly informed about their periods and the range of products they can use to manage them. This helps stimulate demand for menstrual products as well as grow revenues of menstrual product companies and the sector as a whole.[169]

Existing market

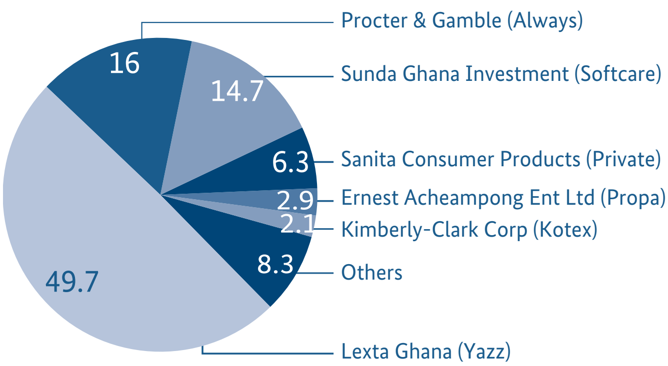
Sales of menstrual products have grown rapidly in recent years, mostly dominated by disposable products. Total menstrual product sales are worth $134 million per annum[170], relative to sales of paper tissues or toilet paper, which are worth $31 million and $189 million, respectively,[171] and have grown by 70% between 2016 and 2021.[172] The majority (97%) are disposable products, and the remainder are reusables.[173] Within the disposables category, 95% are from sanitary pads, while tampons and pantyliners make up the remaining 5%.[174] With companies and organisations like *Days for Girls* lobbying the Ghanaian government to accelerate the introduction of quality standards for reusable sanitary products to ensure they are fit for purpose, growth in this segment is likely to increase.[175]

Figure 15: Share of retail sales of menstrual products, by product type, in %[176]



Domestic companies make up over 50% of the menstrual product market, creating opportunities for local job creation. *Lexta Ghana* is the leading player in the production of disposable sanitary pads. They also produce a variety of consumer products (toilet paper, kitchen tissues) under their brand *Yazz*.[177] *P&G* is the only global multinational with a 16% market share.[178] However, their brand *Always* is more expensive than domestic brands, making them less affordable for low-income customers. For example, an *Always* pad costs approximately $0.10, while *Yazz* and *Propa* pads cost around $0.07.[179] Although the market for reusables is still nascent, three different SMEs are now operating in the space. For example, *IGEA* and *Sankofa* manufacture and distribute reusable pads domestically, while *AFRIpads* ships reusable pads to Ghana.[180]

Figure 16: Manufacturer (brand) shares of disposable menstrual products sold (2021), in %[181]



Enabling environment

Ghana has a favourable tax environment for menstrual product companies relative to other Invest for Jobs countries, which creates an opportunity for potential market entrants. menstrual products are subject to a standard tax of 12.5% VAT,[182] compared to 0% on "essential" medical products.[183] However, this is lower than other Invest for Jobs countries (e.g., 18% in Senegal and 19% in Tunisia), and therefore reduces the costs for companies seeking to sell menstrual products in Ghana.[184]

However, companies have to navigate trade and capital requirements. menstrual product firms face import duties of 20% for disposable sanitary pads and a 5-10% import duty on raw materials and inputs for production, such as cotton.[185] Furthermore, the lack of standardised trade policies for reusables increases the risk of delays and additional customs fees for menstrual product companies.[186] International businesses looking to launch menstrual product enterprises in Ghana must also provide evidence that they have $400,000 in liquid capital to enter the market, which can pose a barrier to companies selling menstrual products.[187]

While Ghana has made some progress in implementing quality standards for disposable products, there are currently no standards in place for reusable products. Quality standards define product specifications to ensure they are fit for purpose and allow firms to strengthen their brands and communicate to potential customers that their product quality is endorsed by the government. Ghana has implemented quality standards for disposable menstrual products (GS 1248:2019).[188] For reusables, there is currently no national quality standard, although the government can certify if products comply with African quality standards – ARSO (the African Organisation for Standardisation).[189] Nevertheless, this is often costly as standards are challenging to access and companies must pay for testing and certification.[190] As a result, companies face challenges in gaining consumer trust and increasing their product sales given that resellers often require product certification.[191]

Growth potential

Ghana's menstrual product market is expected to grow substantially in the next 5-10 years. Sales of disposable menstrual products are expected to grow by 29% ($42 million) from 2021 to 2026, relative to a 43% growth in toilet paper sales.[192] Similarly, the growth in the number of people who menstruate using reusable menstrual products is projected to increase by 28% between 2019 and 2030.[193]

Figure 17: Projected compound growth of disposable menstrual product sales (2022-2026), in %[194]

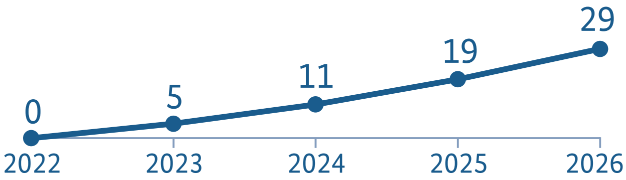
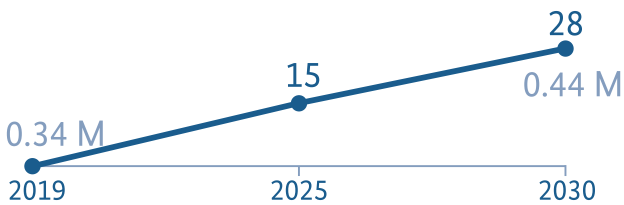


Figure 18: Projected compound growth in the number of people who menstruate using reusable menstrual products (2019-2030), in %[195]



Population-and GDP-driven growth: 'Base case' scenario, which assumes overall usage increases in line with expected population and GDP growth but disposable/reusables' market share does not change, though it is likely to increase over time.

Growth and job creation are likely to be driven by population growth, economic development and urbanisation. Ghana's population is expected to grow by 15% between 2022 and 2032, from 33 million to 38 million.[196] Growing incomes, with GDP growth at 5.4% in 2021,[197] are likely to further increase the ability to pay for menstrual products and accelerate market growth.[198] While sanitary products are still challenging to access in rural areas due to distribution challenges, urbanisation is likely to increase women's access to a variety of menstrual products, as 65% of Ghana's population is projected to live in cities by 2030.[199] To build on this growth, companies in Ghana can look to provide menstrual products in workplaces, to improve female workforce participation, company productivity and performance. This can have far-reaching impacts on the economy. Spending $16 to provide just one woman in Ghana with menstrual products for a year, would increase GNI by $213 by reducing her menstruation-related workplace absences by one day each month. At a national level, this would mean generating $3.4 billion in GNI growth.[200]

The menstrual product sector could be further strengthened by advocacy and policy efforts. NGOs such as UNICEF are running campaigns to increase awareness about different menstrual products across the country. In doing so, they can help stimulate demand for menstrual products and consequently, contribute to the growth of the menstrual product sector.[201] Additionally, companies and NGOs are lobbying the government to reduce import taxes and clarify its quality standards on reusables, which currently only exist for disposable menstrual products.[202] The government has, in turn, demonstrated a commitment to better support the MH sector in Ghana, which can provide momentum for scaling the sector.[203]

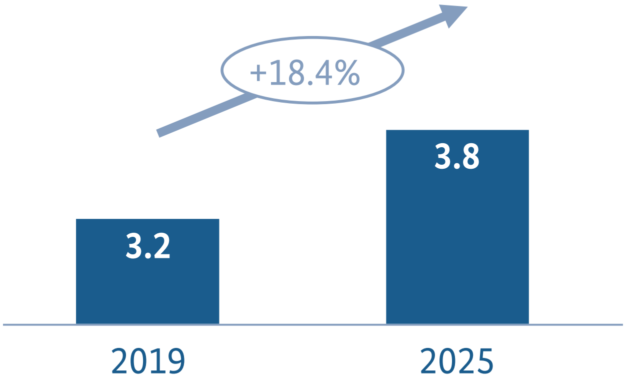
Lectures on female anatomy. Photo: © GIZ / Sector project WaPo

Rwanda

Consumer base

A large proportion of women and girls in Rwanda do not yet use menstrual products, compared to other Invest for Jobs countries. Rwanda has an estimated 3.2 million people who menstruate,[204] representing 25% of the country's population. This is expected to grow by 18%, to 3.8 million by 2025.[205] Among these women, 30-40% have access to, purpose-made menstrual products such as sanitary pads and tampons, while only 12% of the population have access to safely managed sanitation services.[206] Menstrual product access rates are lower than in other Invest for Job countries (average ~70%). Rwanda's GDP per capita is $1,990 – one of the lowest of any Invest for Jobs country (e.g., Ghana's is $4,732), which affects women's ability to pay for menstrual products.[207] Rwandan women spend on average 0.76% of their income on menstrual products, compared to 0.06% in Germany.[208] Low access rates are likely driven by the majority of the country living in rural areas. Just 18% of the population in Rwanda is urban, where incomes tend to be higher and supplying menstrual products faces fewer distribution challenges[209]. Although incomes are low, a strong majority of women aged 18-64 are employed (84% women between the ages of 15-64 are in the labour force), compared to, for example, 20% in Egypt.[210]

Figure 19: Total number of people who menstruate, 2019 vs. 2025 (Million)[211]

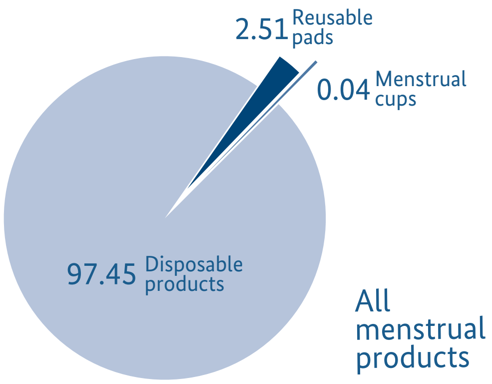


In addition to affordability challenges, limited product availability and stigma are also barriers to access. Retailers are reluctant to buy menstrual products up-front, and often only pay producers after products are sold[212]. This presents a particular challenge for SMEs because it reduces their liquidity. As a result, SMEs report that they avoid selling to these retailers, reducing product choice and access for consumers[213]. Moreover, in Rwanda, stigma and taboos around menstruation persist. Surveys find that many girls hide their periods from their parents, while young female entrepreneurs in the MH space report challenges in access to funding due to ongoing taboos and social norms around gender in the country[214].

Existing market

Sales of menstrual products have grown steadily in recent years, mostly accounted for by disposable product. Total menstrual product sales are worth $24 million in 2023[215], relative to sales of paper tissues or toilet paper, which are worth $8 million and $47 million, respectively,[216] and have grown by 19% between 2016 and 2021.[217] The majority (97%) are disposable products, and the remainder are reusables.[218] Within the disposables category, 97% are from sanitary pads, while reusable pads and menstrual cups make up the remaining 3%.[219]

Figure 20: Share of retail sales of menstrual products, by product type[220]



A variety of domestic and international companies offer products, catering to different affordability levels. *Supa* and *Every Time* are the largest brands for disposable menstrual pads and are produced in Rwanda. These and other brands, including *Best Ladies*, *Salama*, *Safi*, *Best Girls*, are at the more affordable end of the market, costing between $0.5-$0.8 per pack[221]. More premium brands include *Tamu*, *Always*, and *Everyday*, with costs ranging between $0.8 and $0.9 per pack[222]. Retailers of reusable products include *Kosmotive*, *Days for Girls*, *Tuza*, and *Gasaka*, which sell products at between $4.6 and $5.3[223]. Similar to disposable product manufacturers, a study of reusable menstrual product companies in Rwanda found that the majority import their raw materials from China but typically produce in Rwanda. While reusables are more expensive at the point of purchase, they are cheaper in the long term. Across product categories, menstrual products are typically distributed via i) traditional, commercial retailers (including smaller retailers and supermarkets), ii) online distributors (e.g., *Kasha*), or iii) non-profit distributors that provide products in schools and local communities. A study on reusable sanitary pads, found that distribution to schoolgirls in Rwanda is dominated by NGO donations.[224]

Enabling environment

Rwanda has a highly favourable tax environment for menstrual product companies relative to other Invest for Jobs countries, which creates an opportunity for potential market entrants. menstrual products are subject to 0% VAT[225], which is lower than many other Invest for Jobs countries (e.g., 18% in Senegal and 19% in Tunisia), reducing costs for consumers and companies seeking to sell menstrual products in Rwanda.[226]

Menstrual product firms face import duties of 25% for disposable sanitary pads, but this does not apply to imports from other East African countries or raw materials and inputs for production, which are exempt from tax.[227] [228] As a result, the majority of menstrual producers (for disposables and reusables) import their raw materials, and then produce them locally.[229]

Rwanda has also made more progress on quality standards for menstrual products than many other Invest for Jobs countries. As with many African markets, Rwanda has quality standards for disposable menstrual products (RS EAS 96-1: 2018) that should be met before they can be sold.[230] While there is no national quality standard for reusables, an East African Standard has been under review for three years and is set for approval.[231] This happening will help menstrual product manufacturers gain consumer trust and increase their product sales given that resellers often require product certification.[232]

Capital requirements, are reported as a challenge for menstrual product companies. Despite growing investment activity in Rwanda, SMEs face challenges accessing finance due to high collateral requirements and low interest in the menstrual product sector, resulting in a reliance on grant funding. [233]

Growth potential

Rwanda's menstrual product market is expected to grow substantially in the next 5-10 years. The number of menstruators using disposable in the country is expected to grow by 35% (815,000-1.12 million) from 2019 to 2030. [234] Similarly, the growth in the number of people who menstruate using reusable menstrual products is projected to increase by 34% (43,000-59,000) during the same period.[235]

Figure 21: Projected compound growth in the number of people who menstruate using disposable menstrual products (2019-2030), in %[236]

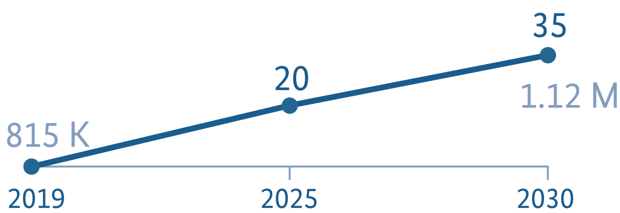
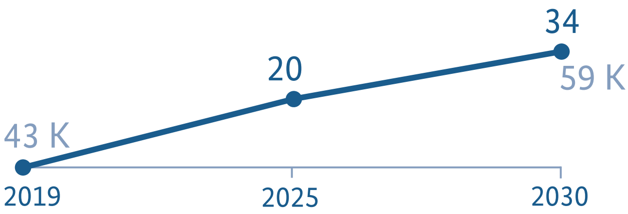


Figure 22: Projected compound growth in the number of people who menstruate using reusable menstrual products (2019-2030), %[237]



Population-and GDP-driven growth: 'Base case' scenario, which assumes overall usage increases in line with expected population and GDP growth but disposable/reusables' market share does not change, though it is likely to increase over time.

This projected growth, and the job creation potential that will come with it, is likely to be driven by growing awareness, rising incomes, and ongoing policy progress. Awareness of reusables has increased by 30% since 2016 and is driven by growing efforts to educate girls on MH in schools and MH centres[238].

In addition, the above-mentioned policy changes have and will continue to improve the affordability and acceptability of menstrual products. VAT exemptions are aimed at reducing prices for consumers, while an East African Standard for reusables has been approved in 2023, reducing perceived risks for distributors and consumers. The government is also introducing "Girls rooms" in schools as well as community sanitation centres that provide access to menstrual products[239]. In Rwanda, women's incomes have increased by 42% (between 2011 and 2021)[240], and the share of women in formal employment has risen from 14% to 24% (2009-2019).[241] The rise in income and formal employment can provide women with greater income security to purchase a range of menstrual products. To build on this growth, companies in Rwanda can look to provide menstrual products in workplaces, to improve female workforce participation, company productivity and performance. The loss of GNI when a woman misses 12 days of work per year (one day per month) can have a far-reaching impact on the economy. Spending $15 to provide just one woman in Rwanda with menstrual products for a year, would increase GNI by $95 by reducing her menstruation-related workplace absences by one day each month. At a national level, this would mean generating $626 million in GNI growth.[242]

Various menstrual products. Photo: © GIZ / Sector project WaPo

Endnotes

1 LEAP, Menstrual Hygiene Landscape for Sub-Saharan Africa, 2019.

2 LEAP, Menstrual Hygiene Landscape for Sub-Saharan Africa, 2019.

3 LEAP, Menstrual Hygiene Landscape for Sub-Saharan Africa, 2019.

4 Dalberg/WASH United, Analysis, 2022 (Full list of data sources available in Invest for Jobs Country Ranking MH Analysis document) LEAP.

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6 Dalberg analysis, 2023: MH product purchases as a % of annual income per capita (female), determined by the price of 180 pads / annual income per capita (female). 180 pads is the approximate no. of pads someone uses in a year. Sources: Human Development Reports, Gender Development Index (GDI), 2021; Dalberg/WASH United, Analysis, 2022 (Full list of data sources available in Invest for Jobs Country Ranking MH Analysis document).

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10 USAID & Iris Group, Menstrual Hygiene Management in the Workplace, 2022.

11 World Bank, Employment in services, female (% of female employment) (modeled ILO estimate), 2019.

12 World Bank, Employment in agriculture, female (% of female employment) (modeled ILO estimate), 2019.

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