



# Boosting business: why investing in water, sanitation and hygiene pays off

Garment factories  
in Bangladesh



Impact report

WASH  
4WORK



WaterAid

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# Executive summary

Having safely managed water, sanitation and hygiene (WASH) infrastructure in the workplace is vital to business performance and success. These essential services are foundations for the health and well-being of employees, reducing medical and sick pay costs, and boosting staff motivation and productivity.

WASH considerations should be included in a company's water stewardship strategy and seen as an opportunity to strengthen operational resilience and performance. WASH investment is also a way to build brand perception value and mitigate supply chain and climate risk, while addressing a whole host of environmental, social and governance (ESG) criteria.

*Boosting business: why investing in water, sanitation and hygiene pays off* is a first-of-its kind pilot research project measuring the return on investment (ROI) and other business benefits of improving WASH services and behaviours in the workplace and employees' communities.

In collaboration with Diageo, Gap Inc., HSBC, Twinings and ekaterra (which was part of Unilever when this project started), WaterAid has measured the tangible impact of WASH investment in ten workplaces across four countries. This includes tea supply chains in India and Kenya, apparel and leather supply chains in Bangladesh and India, and agricultural smallholder farmers in Tanzania.

In Bangladesh, the apparel sector has a vested interest in securing long-term sustainable access to water resources for business resilience. It requires the right quality and quantity of water for its production processes and water for the health and livelihood of its workforce.

With growing populations and the increasing impacts of climate change, this water-intensive sector could threaten essential resources but, by investing in WASH facilities, particularly those that are climate-resilient, the industry can realise its employees' rights, improve health and wellbeing, promote holistic water management across the sector and build business resilience.

Research carried out in three ready-made garment (RMG) factories in Bangladesh's Narayanganj district demonstrates the business case for investing in WASH. Over the course of the study, all business indicators showed benefits. Absenteeism went down by 15%, punctuality improved by 5%, and attrition decreased by 2%. In employees' communities, almost a third of staff (31%) now have access to safely managed water and 26% of households have safely managed sanitation services, compared with 0% at the start of the project.

Overall, the project returned a positive ROI across the range of factories for the period of the project with \$1.33 return for every \$1 invested in WASH (ranging from \$-5.40 to \$9.04).

Assuming a continued investment in WASH over a 10-year period (ie. operating, maintenance, ongoing capital and any top-up costs), the factories in Bangladesh are expected to show an estimated overall ROI of \$6.79 for every \$1 invested (ranging from -\$9 to \$30). Some factories did generate a negative ROI, likely related to external factors (including COVID-19) and workplace-specific nuances. However, the qualitative evidence suggests the WASH interventions at the factories had a positive effect on business indicators overall.

Companies must respect the human rights to water and sanitation and should ensure employees have clean water, decent toilets and handwashing facilities in the workplace. *Boosting business: why investing in water, sanitation and hygiene pays off* shows this should not be seen as an expense, but a sound investment with a ripple effect far beyond the bottom line.

# 1

## Introduction

● Supervisor Minara Akter has seen positive changes in the health, hygiene and attendance of her fellow colleagues since the WaterAid and HSBC intervention. Narayanganj, Bangladesh. October 2021.





● Supervisor Minara Akter on duty in the printing section of the Fakir Fashion factory. Narayanganj, Bangladesh. October 2021.

The role of water, sanitation and hygiene (WASH) in economic development and resilience is relatively well documented,<sup>1</sup> but its impact on workplace performance through employee health and wellbeing is less well evidenced.

*Boosting business: why investing in water, sanitation and hygiene pays off*, aims to build a strong case for action and investment in WASH throughout corporate supply chains and communities.

The research measures the return on investment (ROI) and wider business benefits of expanding these essential services at speed and scale – showing companies, brands and suppliers the positive impact they can have on employees and their communities, at the same time as ensuring business productivity and growth.

**Everyone, everywhere has a human right to water and sanitation – at home, in their community and at work.**

1. Vexler C, Walker O, Mortlock C, et al (2021). *Mission-critical: Invest in water, sanitation and hygiene for a healthy and green economic recovery*. WaterAid and Vivid Economics. UK. Available at: [washmatters.wateraid.org/sites/g/files/jkxoof256/files/mission-critical-invest-in-water-sanitation-and-hygiene-for-a-healthy-and-green-economic-recovery\\_0.pdf](https://washmatters.wateraid.org/sites/g/files/jkxoof256/files/mission-critical-invest-in-water-sanitation-and-hygiene-for-a-healthy-and-green-economic-recovery_0.pdf) (accessed 19 Apr 2022).



● Moushumi Akter at work inside the Fakir Fashion factory. Narayanganj, Bangladesh. October 2021.

# Context

**Figure 1: Location of the factories and intervention communities**

## The sector

Bangladesh is the world's second-biggest apparel exporter after China. Its ready-made garment (RMG) sector accounts for 83% of the country's total export earnings<sup>2</sup> and has huge economic potential. There are currently more than 3,850 garment factories in Bangladesh, employing roughly 3.6 million people.<sup>3</sup>

Bangladesh has one of the highest population densities in the world and its population continues to grow. Demand and competition between business and personal use is high, with resources under pressure, stressed by climate change and heavily-extracted by water-intensive industries like textiles.

The RMG sector is often scrutinised and employee safety and wellbeing assessed for compliance against International Labour Organization (ILO) standards.<sup>4</sup> WASH access at work is often poor, with limited knowledge of good hygiene practices and behaviours amongst the workforce.

## Bangladesh



Narayanganj District, part of Dhaka Division

Most RMG employees live in low-income communities near industrial hubs, where WASH facilities are very limited, posing wider risks to health and wellbeing. Women, who make up most of the workforce, are disproportionately affected,<sup>5</sup> as they often bear the burden of collecting water for their families and are forced to deal with their periods without menstrual hygiene products or access to private, safe and clean toilets.

## The workplaces

The RMG factories selected for this project were Fakir Fashion, Next Accessories and Esquire Knit Composite Ltd. The three factories are in Rupganj and Sonargaon Upazilas (sub districts) of Narayanganj district.

For this study, there was no direct relationship with the brand. Therefore we established relationships directly with the factories.

2. Bangladesh Garment Manufacturers and Exporters Association (BGMEA) (2022). *The Apparel Story. What Awaits RGM Industry in 2022. January-February 2022*. Available: [bgmea.com.bd/uploads/newsletters/appare-story-january-february-2022.pdf](http://bgmea.com.bd/uploads/newsletters/appare-story-january-february-2022.pdf) (accessed 27 May 2022).
3. Moazzem K G, Radia M A (2018). *'Data Universe' of Bangladesh's RMG Enterprises: Key Features and Limitations*. CPD Working Paper 123. Dhaka: Centre for Policy Dialogue (CPD). Available at: [cpd.org.bd/wp-content/uploads/2019/01/CPD-Working-Paper-123-Data-Universe%E2%80%99-of-Bangladesh%E2%80%99s-RMG-Enterprises.pdf](http://cpd.org.bd/wp-content/uploads/2019/01/CPD-Working-Paper-123-Data-Universe%E2%80%99-of-Bangladesh%E2%80%99s-RMG-Enterprises.pdf) (accessed 29 Jul 2022).
4. ILO (no date). *Labour standards*. Available at: [ilo.org/global/standards/lang-en/index.htm](http://ilo.org/global/standards/lang-en/index.htm) (accessed 16 May 2022).
5. WaterAid (2016). *Gender equality and water, sanitation and hygiene (WASH)*. Available at: [washmatters.wateraid.org/sites/g/files/jkxoof256/files/Gender%20equality%20and%20water%20sanitation%20and%20hygiene%20WASH.pdf](http://washmatters.wateraid.org/sites/g/files/jkxoof256/files/Gender%20equality%20and%20water%20sanitation%20and%20hygiene%20WASH.pdf) (accessed 16 May 2022).

The Narayanganj District, was chosen because of the large number of knit factories in the area and our previous reputation and experience of working in this district. The RMG factories in the district have a large male workforce and were chosen based upon factory management receptiveness and willingness to engage with us on a WASH project. This selection process is unlikely to be completely representative of the Bangladesh knit and woven garment sector, which has a high, (but decreasing) proportion of women among the workforce.<sup>6</sup>

The employees of the three RMG factories predominantly live in low-income settlements in three Upazilas of Narayanganj (Araihazar, Rupganj and Sonargaon).

These low-income settlements near the industrial hubs have limited WASH services. Most employees at the factories are aged between 20–34, working full-time, with 99% doing so six days a week.

The processes followed by the factories are outlined in Figure 2. There are some nuances between the factories, depending on which stages they focus on.

Fakir Fashion is a large integrated RMG factory incorporating all stages of the production process, from the yarn and knitting stages to the sewing, printing and embroidery of final products.

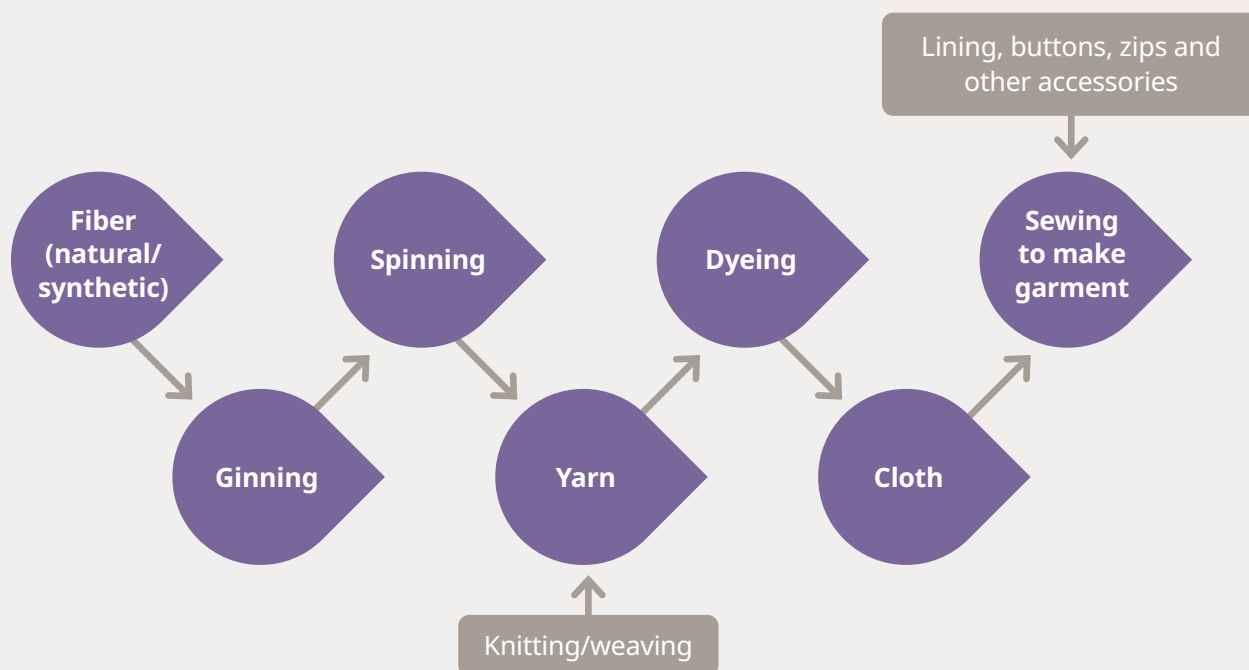
The company employs 15,005 people, with an employee ratio of 60:40 men to women.

Next Accessories is a production facility providing apparel identification labels as well as print and packaging requirements. It is a supplier to the garment industry and leatherwear sector. The company has 705 employees, with a 86:14 split of men and women.

The facility is a ‘green plant’, constructed according to United States Green Building Council (USGBC) criteria, and has rainwater harvesting (RWH) in place.

Like Fakir Fashion, Esquire Knit Composite Ltd is an integrated manufacturing facility incorporating all stages of production. It employs 10,334 employees with a 52:48 dominance of women in the workforce.

**Figure 2: Apparel supply chain**



6. ILO (2020). *Understanding the Gender Composition and Experience of Ready-Made Garment (RMG) Workers in Bangladesh*. Available at: [ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms\\_754669.pdf](https://ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms_754669.pdf) (accessed 29 Jul 2022).



● Moushumi Akter at work inside the Fakir Fashion factory, which now has WASH facilities. Narayanganj, Bangladesh. October 2021.

## WASH baseline

The baseline (pre-intervention) status of WASH services and behaviours at the three factories was similar. There was an inadequate number of drinking water taps for the number of employees. Handwashing services were basic at Next Accessories and even more limited at the other two factories. A proportion of women working at each of the factories used leftover cloth from garments to manage their periods.

Poor WASH conditions were also observed in the employees' communities and classified according to Sustainable Development Goal (SDG) service level.<sup>i</sup> Assessments and consultations within the community revealed a lack of clean water, with basic level service access to drinking water facilities at household level. Sanitation facilities across the communities were also insufficient (60% access to unimproved service, 30% access to limited service, and 10% access to basic sanitation) and there were no sex-segregated toilets available. With regards to hygiene, there was very limited knowledge and limited practice of safe hygiene behaviours (e.g., handwashing, menstrual health and hygiene (MHH), food hygiene management), and poor provision of handwashing facilities (81% no facility, 6% limited, and 13% basic).

**Table 1: Overview of WASH baseline conditions across the three factories aligned with JMP service levels<sup>i</sup>**

### Overview of the three factories

#### Water

- Improved water source via factory-owned deep tube well and storage in reservoir (treatment via ultraviolet ray).
- Drinking water tap accessible on each floor but insufficient quantity for number of employees.

#### Sanitation

- Sex-segregated toilets.
- Good cleanliness.

#### Hygiene

- Limited – basic handwashing facilities and poor handwashing practice.
- Factory dining facility, but insufficient access to water or soap for handwashing.
- Menstrual health and hygiene – using reusable cloths or leftover cloth ('Garments Jhut'). No bin with lid.

i. The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) reports on country, regional and global estimates of progress on WASH. The JMP service ladders are used to benchmark and compare service levels across countries. See: [washdata.org/monitoring](https://washdata.org/monitoring).

# 2

## Methodology<sup>ii</sup>

● Shamima Khatun is one of 15,005 employees at Fakir Fashion. Narayanganj, Bangladesh. October 2021.



## Objectives

- Improve WASH services and hygiene behaviours for RMG employees at work and in the communities where they live.
- Build a business case for WASH investment in RMG factories and employee communities, by calculating the return on investment and benefit from business indicators.
- Influence the RMG industry more broadly by building the evidence base for providing people with a safe and hygienic work environment.

## Indicators

The following indicators were used to measure the impact of the intervention:

- WASH improvements, and the effects of these on employees' health and wellbeing.
- The financial value to the businesses, by calculating the ROI based upon quantitative business benefits.
- Quantitative and qualitative business benefits focused on absenteeism, attrition, medical costs, punctuality, productivity, quality and rainwater harvesting.

## Measuring impact on employees' health and wellbeing

The project used a before and after comparison to show the WASH improvements and the impact of the intervention on employees and their households. A mixed-method strategy was used for data collection. Data was primarily collected from garment producers through a quantitative group discussions as well as interviews with employees and management. Structured observations were carried out at critical points in the factory and in the community including waterpoints and handwashing stations. The performance of employees was also logged in a diary.

Cross-sectional data was collected using a quantitative survey at the baseline in May 2019 and another at the endline in July 2021. A sample of 800 employees (80% women and 20% men) took part in the initial survey, from a total population of 20,000 permanent staff, with a 95% confidence interval, 5% margin of error and sample adjusted by 1.5 for design effect, possible dropout and probable non-response. The male:female (20:80) baseline sample was agreed based upon assumed RMG demographic knowledge, this in fact was incorrect and will have led to selection bias in the sample with women over sampled. The endline sample selection was maintained for consistency. A survey of 180 employees was also carried out to measure progress against the indicators. A 50% attrition rate was expected over the course of the study, so another survey was carried out at the end from a random sample of those who had worked at the factory for the last 12 months and witnessed the interventions outlined in Table 3 in Chapter 3. The sampling frame was prepared independently for each factory, including those receiving messages at the factories and those receiving the intervention at their workplace as well as in their community, to ensure sufficient coverage of WASH intervention across the factories and communities.

Monthly management data from the three factories was collected from July 2018 to May 2021 to inform business indicators. This enabled the necessary data to be gathered, to calculate the ROI and assess business benefits and trends.

For additional detail and specific information, on the methodology, particularly on detailed ROI calculations, please refer to the *Technical note*.<sup>ii</sup>

**Table 2: Data collection timeline**

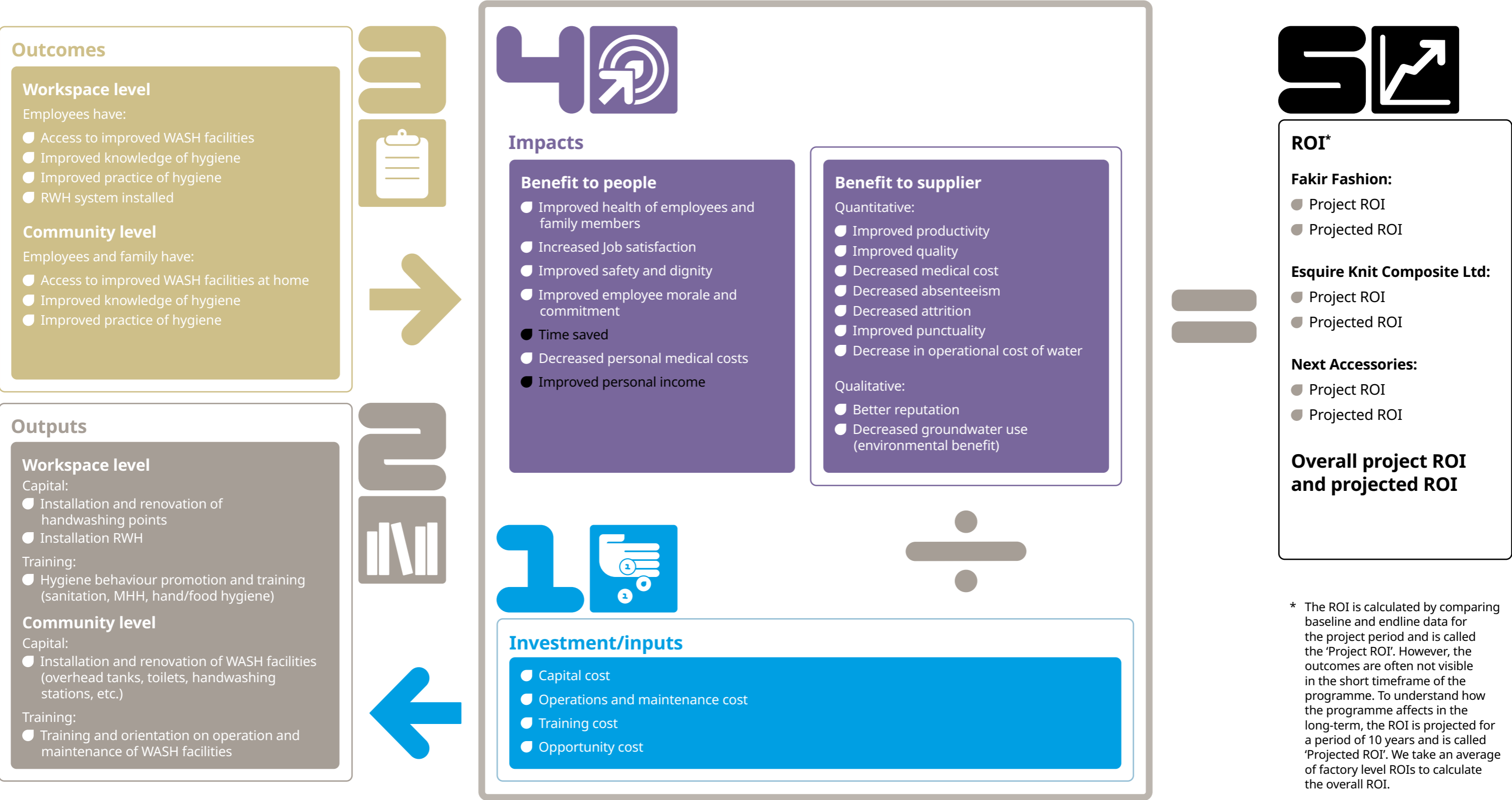
Study period	Timeline
Baseline	May 2019
Project period	August 2018 – June 2021
Endline	July 2021

ii. For a more detailed methodology, see: [wateraid.org/boosting-business](https://www.wateraid.org/boosting-business).

## Measuring financial value to the businesses

To understand and measure the ROI and business benefits derived from improving WASH in the workplace and employees' communities, we defined an outcome and impact pathway for the project. Please start reading the diagram from stage '1. Investment/inputs'. This pathway lists all indicators studied as part of this project. The indicators in white were tracked and either qualitative or quantitative data was gathered to help build the picture of benefits and impact for people and the business. The indicators in black were not tracked for this project.

### Outcome and impact pathway

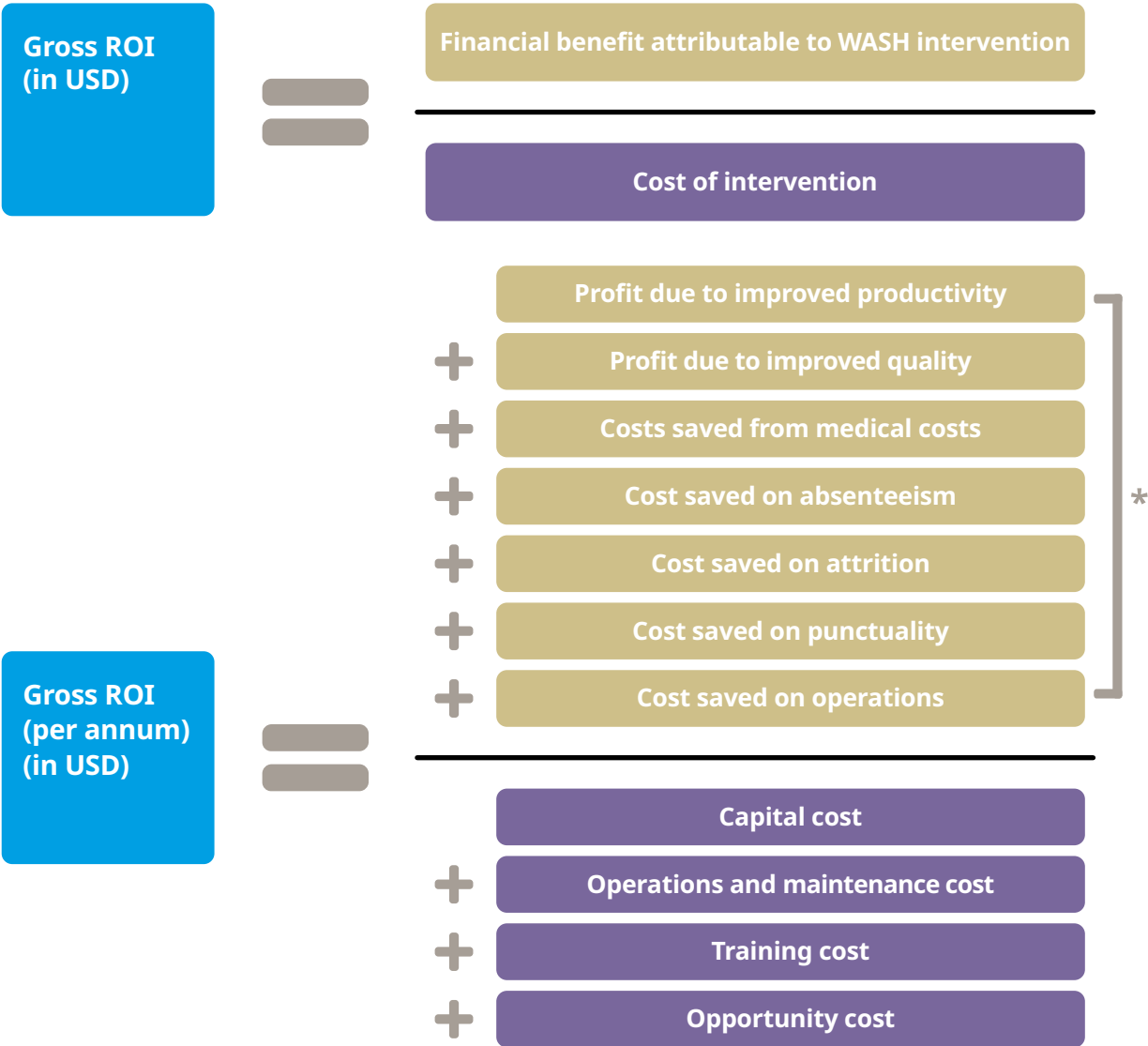


# ROI formula<sup>iii</sup>

The ROI aims to calculate the expected financial benefit of WASH. Given the nature of the interventions, not all benefits can be attributed to this. Therefore, the results were assessed alongside evidence from interviews and literature, as well as knowledge based on the context, to ascertain how much could be attributed to WASH. We also undertook sensitivity analysis to understand the effect of attribution percentages on the ROI. Please see the *Technical note*<sup>iv</sup> for more detail.

The ROI was projected over 10 years, assuming the businesses continue to invest in maintaining the WASH infrastructure and behaviour change interventions. Some costs will also continue in the projected period. For calculating projected ROI, net present value and drop-off rates have been taken into account. For the ROI calculation, the qualitative elements of the ‘Benefits to supplier’ were not included.

The graphic below indicates the high-level ROI formula and a more generic ROI detailed breakdown of that same formula, highlighting the indicators used for ROI calculations in white.



\* All impacts attributable to WASH intervention.  
iii. Costs and benefits are at net present value (NPV).  
iv. For a more details, see: [wateraid.org/boosting-business](https://wateraid.org/boosting-business)

For calculating business ROI: from the total costs (denominator) subtract the leveraged finance (usually community contribution and government funding).

## Research limitations (including impact of COVID-19)

This pilot research faced a number of challenges and limitations, not least of all, the spread of COVID-19. During the pandemic, Bangladesh declared a nationwide lockdown, causing the project interventions to be postponed for three months. This delayed the final data gathering and meant the assessment had to be revised in terms of timelines, length, detail and the inclusion of recall questions. Business productivity and the natural flux of workforce migration was accentuated and it effected the reporting of WASH-related diseases. In the early part of pandemic, there was widespread fear, stigma and uncertainty, so it is likely that families under-reported incidences of WASH-related diseases. As a result, the findings on indicators around incidence, sick days and loss of work may have been inaccurate. The global pandemic impacted business productivity and made data collection and reporting more complicated.

The project was not designed to showcase causality and the link between change in WASH behaviour and WaterAid's intervention. However, we have made reasonable assumptions on causality based on interviews with the workforce and managers and relevant literature. Changes in people's handwashing habits and attitudes cannot be exclusively linked to the project, as widespread hygiene campaigns in response to COVID-19 also had an impact. However, attribution was considered, and results can be deemed well-grounded.

Rather than attribute all changes to the WASH intervention, we have estimated an attribution of percentages and tried to pinpoint the proportion of change that could have occurred due to WASH.

Attribution percentages were defined, and different for each factory due to differing workplace contexts, processes, products, markets and baseline WASH conditions. For Fakir Fashion, attribution percentages due to WASH were 10% for attrition, 60% for absenteeism, 75% for punctuality, 67% each for productivity and quality, 50% for medical cost, and 50% for rainwater harvesting/operational cost of water saved.

For Esquire Knit Composite Ltd, attribution percentages used were 20% for attrition, 75% each for absenteeism and punctuality, 19% for productivity, 80% for quality, and 54% for medical cost. For Next Accessories, attribution percentages used were 30% for attrition, 12% for absenteeism, 70% for punctuality, 19% for productivity, and 80% for quality.

The RMG sector workforce is quite transient, and employees are frequently moving, which resulted in challenges to the before-and-after nature of the study. Employee interviews were conducted in their homes, while the interviews with key informants were conducted at factories. Furthermore, the factory data systems were poor. Most of the data was either maintained in notebooks or registers. Frequently, data was missing (partially or completely) and the use of different units between factories meant they had to be aligned for analysis. Best efforts were made to mitigate for data inconsistencies and manual calculations were required to measure the value of important indicators, like absenteeism and punctuality.

**Please refer to the *Technical note* for details on how many of these issues have been mitigated and managed.<sup>v</sup>**

● Shamima Khatun, Textile Producer, now uses the newly-installed toilets in her community, which are safe, clean and private. Narayanganj, Bangladesh.



v. For a more details, see: [wateraid.org/boosting-business](https://wateraid.org/boosting-business)



## Implementation



● Zakia and her family are happy that the new WASH facilities have transformed life in their community. Dahargoan, Narayangonj, Bangladesh. October 2021.

The project was implemented between August 2018 and June 2021, with the infrastructural interventions made between January 2019 and April 2021. The four major areas of interventions were drinking water, toilet use, handwashing and MHH at the RMG factories and in the communities. CapEx, OpEx and maintenance costs are not discussed in this public report.


**Table 3: The number of people reached through each intervention**

WASH gap identified	Intervention	People reached*
Inadequate handwashing stations (factory)	Installation and renovation of handwashing stations	26,044 employees (three factories)
Inefficient water use (factory)	Installation of RWH system	From May 2020 – June 2021 – 16,484m <sup>3</sup> rainwater collected and used in factory (one factory – Fakir Fashion)
Inadequate soap and cleaning products at handwashing stations (factory)	Provision of cleaning agents by factory management	Nearly 26,044 employees (three factories)
Inadequate hygiene awareness, knowledge and practice (factory)	Hygiene behaviour promotion and training (hand hygiene, sanitation and MHH)  Identification and training of change agents/hygiene champions	14,523 employees with messages on handwashing (three factories)  4,578 women employees reached with messages on MHH (three factories)  167 women change agents trained. By end of the project, 77 were actively playing roles as change agents
Inadequate WASH infrastructure and operation and maintenance knowledge (community)	Installation and renovation of toilets and handwashing stations (i.e., safe water, improved sanitation, and handwashing facilities) in communities where employees lived  Operation and maintenance training	4,118 people (women – 1,226, men – 2,055, and children – 837) from families linked to factory employees reached through 154 sanitation/handwashing facilities  Most (2,141) of the employees and their family members belonged to Fakir Fashion Ltd., 1,913 was Esquire Knit Composite Ltd., and 64 was Next Accessories Ltd  In addition, the facilities also reached an additional 5,245 people (1,433 women, 2,763 men, and 1,049 children) who do not work in the project's target factories  308 people (operation and maintenance training of two individuals) (two communities)

\*Note: The numbers of people reached should not be added together to make a total as some were reached with more than one intervention.

## 4

## WASH outcomes

A woman wearing a bright pink headscarf and a red dress with orange and white floral patterns is standing at a public water station. She is washing her hands under a chrome faucet. The water station has blue tiled walls and a blue tiled sink. The background shows a corrugated metal wall and some greenery.

● Factory employees, like Shamima Khatun, no longer have to queue for hours in their communities to access water. Clean water is now available for drinking and handwashing for everyone. Narayanganj, Bangladesh. October 2021.

## WASH improvements

After the intervention, almost all the WASH indicators showed improvement. Access to services improved, usage increased and there was greater awareness among employees and their communities. The best results came where a wide range of holistic WASH improvements (taps, toilets and hygiene interventions), were introduced.

Although there were WASH improvements across all the RMG factories, the differences between the factories makes it difficult to draw comparisons. The improvements were much higher at Fakir Fashion due to various potential factors. At Fakir Fashion, the CEO was committed to the project which meant that management was receptive to suggested changes, and the frequency and volume of hygiene training sessions. It is also a larger company, with 15,005 employees, resulting in greater scale and reach compared to the other two factories. More WASH interventions were also focused at Fakir Fashion compared to the other two factories. As a result, Fakir Fashion saw more direct benefits with healthier, happier employees and ultimately, more business benefits for the company.

Access to drinking water was improved at each factory. Use of light-purified drinking water points were observed on each floor, with a water quality analysis report alongside; handwashing stations (intact basins and taps) with soap available, and posters with handwashing messages were also put in place.

The number of sanitary pad users increased monthly across the factories, especially after MHH promotion, indicating improved menstrual hygiene practices. The factories provided the pads to employees at cost, making them more accessible. New bins were also observed near the toilets for used menstrual hygiene materials.

99%



**of employees received handwashing messages during the intervention – 95% learned proper handwashing through demonstration.**

82%



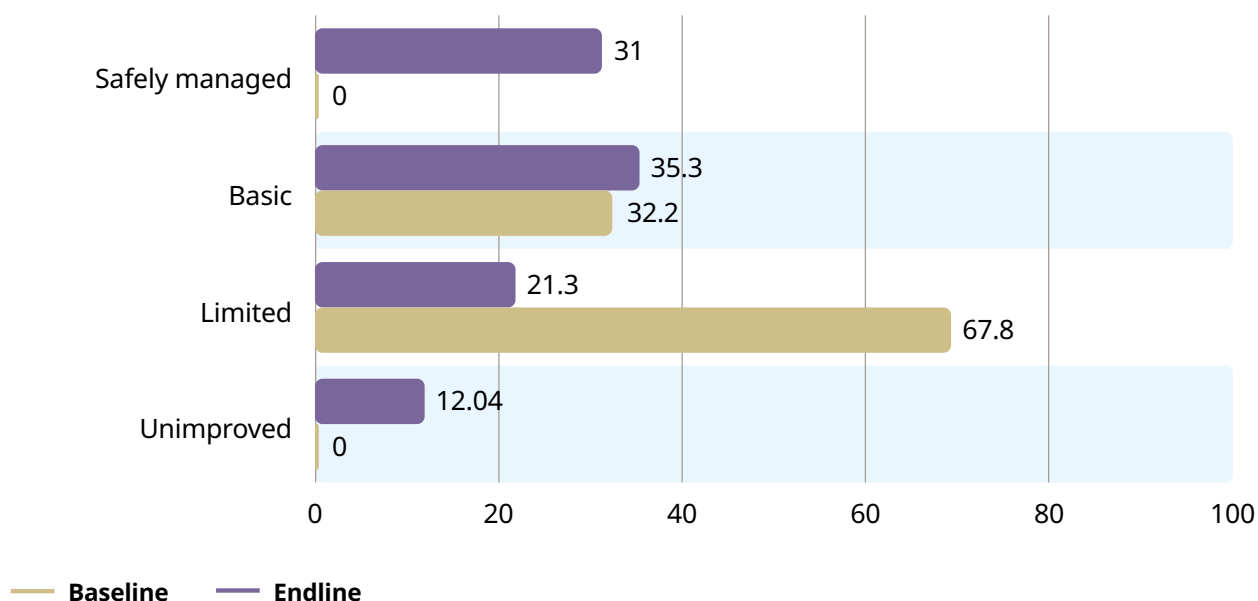
**of women in the factories are now washing hands with soap and water at work before eating, compared with 1% at start of the project (for men employees, the percentage was 52% compared with 2%).**

At the start of the project, more than 90% of employees did not use soap to wash their hands before lunch but by the end, more than 50% were routinely washing their hands with soap. The frequency with which toilets were cleaned increased too – 96% were cleaned every day, compared with 92% at baseline.

**“We can go to the toilet without any queue and no longer see anyone fighting for water or entering the toilet anymore. My health has improved.”**

Roksana Khatun, factory employee at Fakir Fashion

**Figure 3: Household access to water, by SDG service level**



**31%**



**average increase in access to drinking water in employees' communities.**

At the end of the project, **31%** of households had access to safely managed water services, compared with 0% before the intervention. Almost all newly installed water sources (99%) are fully functional, and water is always available, which is an improvement compared with baseline (92%).

**"We never had a clean water supply source. I used to bring water by standing in a queue for hours. After the completion of the WaterAid project, we are now getting clean water all day long."**

Shamima Khatun, factory employee at Fakir Fashion

# 26%



average increase in access to safely managed sanitation facilities in employees' communities.

26% of households now have access to safely managed sanitation services, compared with 0% before the intervention.

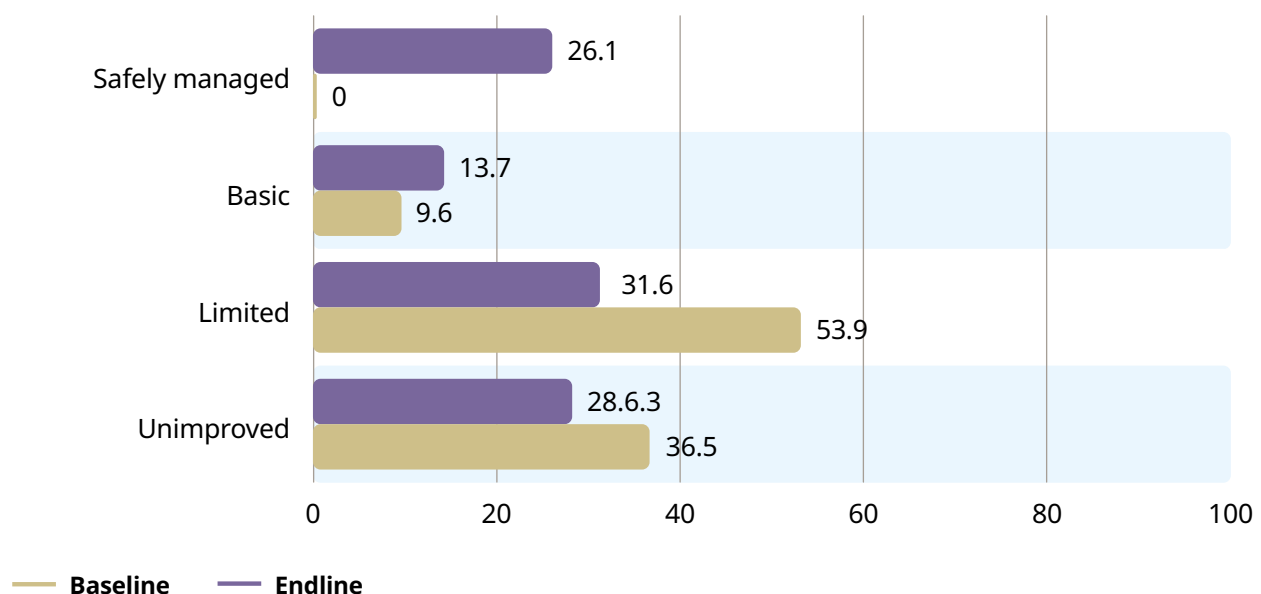
Visibility of faeces in latrines reduced to an average of **12%**, compared with 32% at baseline, the cleanliness of toilets improved by **41%** on average (from 34% to 76%), and **98%** of toilets now have running water, compared with **83%** before the intervention.

**"In my community, we had one toilet for twelve families. Two years ago, our lives started changing. We can go to the toilet without any queue and do household work before going to the factory. Our lives have transformed for the better."**

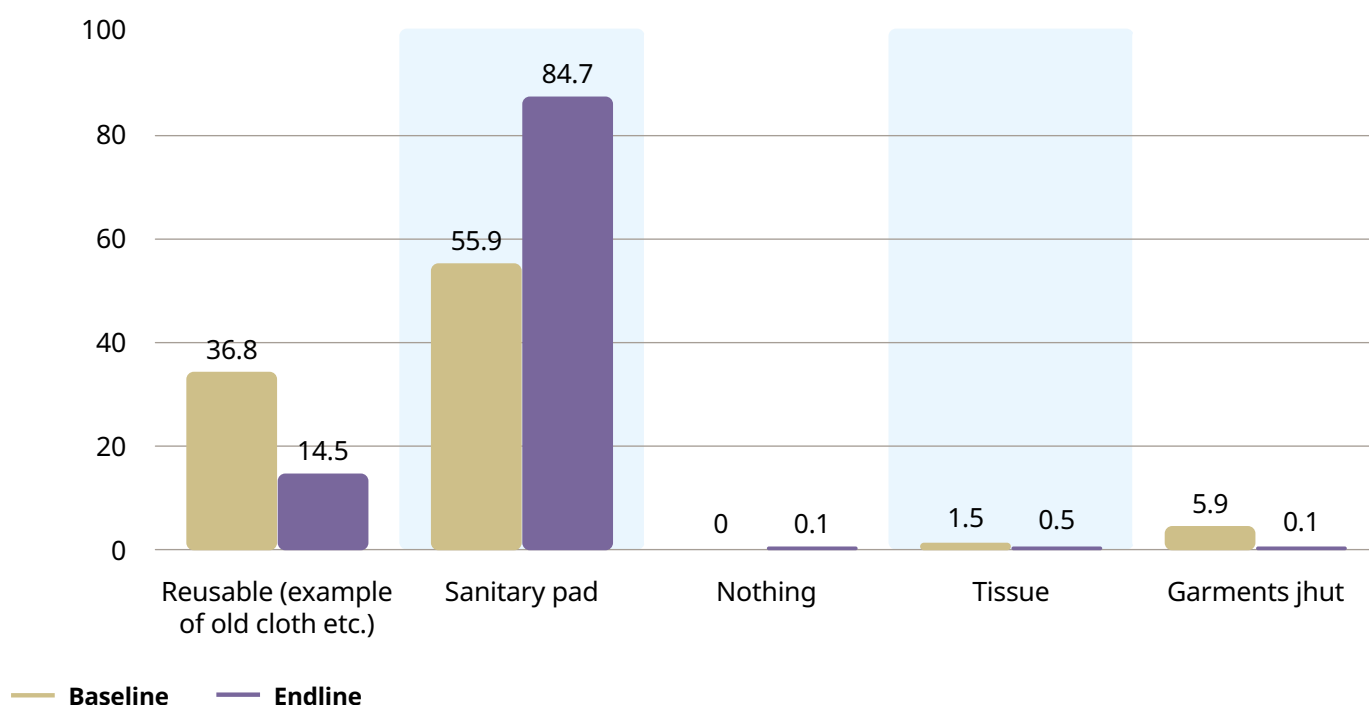
Roksana Khatun, factory employee at Fakir Fashion



**Figure 4: Household access to sanitation, by SDG service level**



**Figure 5: MHH materials used by women employees at home**



**85%**

**of women employees are now using sanitary pads at home. An increase from 56% before the intervention.**



The frequency at which women changed their menstrual materials also increased – **84%** changed materials within six hours, compared with 54% at baseline. **76%** used a bin to dispose of menstrual materials at work, compared with 12% at baseline. Almost **88%** of women employees received MHH messages.

**“In our factory, we have a sanitary pad vending machine that provides us [with] pads at a reasonable cost. I no longer face any urinary infections, which has also happened to many of my friends in the factory.”**

Shamima Khatun, factory employee at Fakir Fashion

The incidence of water-borne diseases decreased by almost 4% (down to **3%** from 7%). The decrease in total disease episodes reduced average health expenditure by **26%**, increasing income by **5%**.

**“Then finally we get a toilet in our community, running water and a handwashing station in our factory. Now I do not lose any more money for my absenteeism.”**

Moushumi Khatun, factory employee at Fakir Fashion

**11%**

**decrease of employees reporting that at least one household member currently suffered from any disease (35% at the end of the project, compared with a baseline of 46%).**





## Case study – Former Factory CEO

● Maher Abdullah AL, former CEO of Fakir Fashion, has seen the productivity and health of his staff improve since the WaterAid and HSBC intervention. Narayanganj, Bangladesh. October 2021.



Maher Abdullah AL, the former CEO of Fakir Fashion, has seen many changes since the WaterAid and HSBC initiative began in 2018: **“260 toilets have been established, and water management is now being controlled. Employees and community people have learned how to best use these resources. Their families are benefitting, which results in better production,”** he said. **“We have seen that employees’ absenteeism has reduced, which is impressive.”**

With the roll out of clean water, decent toilets and handwashing facilities, hygiene practices in the factory have improved, along with the health of the employees. **“Every corner of our factory has handwashing facilities,”** said Maher. **“Our workers are responsible and cautious. We have very positive feedback. Their productivity has increased because of practices of health and hygiene, use of proper toilets and use of sanitary pads.”**

Maher has said how the WaterAid and HSBC initiative could not have come at a better time. With the onset of pandemic a few years after the pilot launched, Fakir Fashion was well-equipped for the new COVID safety measures: **“We had all these practices and facilities already in place when COVID-19 spread globally. These practices were fundamental for us to maintain [our business].”**

But it’s not just health and productivity that has improved. Maher speaks of the environmental benefits and costs that has been saved since they installed a rainwater harvesting system: **“In the monsoon, we can use this water in our dyeing houses that do not need chemical treatment – supporting our environment,”** he said. But, **“to make the business sustainable, employees’ lives [also] have to be improved.”**

# 5

## Return on investment

● Rokhana Khatun has noticed an improvement in her health and a reduction in medical costs since the WASH investment at the Fakir Fashion factory and in her local community. Narayanganj, Bangladesh. October 2021.



Overall, the project returned a positive ROI across the RMG factories for the period of the project, **with \$1.33 return for every \$1 invested in WASH** (ranging from \$-5.40 to \$9.04).

The overall 10-year projected ROI for the three factories, assuming continued investment in WASH services and behaviours, was **\$6.79 for every \$1 invested** (ranging from \$-9.21 to \$30.03).

The cumulative projected business benefits 10 years after the end of the project, combining all three factories is estimated at **\$6.4 million**.

When considering the return on investment (ROI) in isolation for the project period (August 2018–June 2021), Fakir Fashion shows a positive ROI, Esquire Knit Composite Ltd shows a negative ROI, and Next Accessories has a ROI of less than 1. However, the overall ROI across the three diverse factories within the project period is positive. In spite of the range of ROI results, the study showed that given the right factory context, WASH can bring financial benefits in the RMG sector. The pilot research also generated some valuable insights on design principles for a WASH project with an ROI objective.

Projecting forward over 10 years after intervention, the average ROI across the three factories increases five-fold. There are two reasons why it is useful to look at projected ROI:

1. The assessment at the end of project period happened after a very short time, whereas the full extent of the impact is expected to take longer.
2. A lot of capital cost has been spent in the project period, and is expected to show benefits for many years after the project period has ended. To account for these continued benefits, it is important to look at a period roughly aligned to the expected lifespan of the capital infrastructure.

The above ROI assessment includes all costs, including the money leveraged from the Government, along with monetary contributions from the project. A business ROI can also be generated, and we would theoretically expect this to be higher because the investment by the business is less while the benefit/return remains the same. The business ROI often requires other financial contributions. However, leverage of different funding streams contributes to broader benefits as well as the longer term sustainability of the project. The potential to raise finance offers even greater ROI to incentivise stakeholder collaboration.

As highlighted in the previous section, there were various factors that contributed towards Fakir Fashion having better WASH outcomes, subsequently better business benefits and a stronger ROI. Fakir Fashion is the largest of the three factories, so had the highest project cost but also saw the biggest improvement in WASH services (54% of total factory cost was spent on Fakir Fashion) from the intervention. Because of the larger workforce and therefore bigger potential reach, Fakir Fashion employees also benefitted from the largest share (68% of the total community cost was spent on Fakir Fashion employees and their family members) of community-level infrastructure improvements, and these were carried out for longer (by four months compared with Next Accessories and eight months with Esquire Knit Composite Ltd).

Fakir Fashion was also the only factory where RWH was implemented and contributed to a positive ROI. Next Accessories was a much smaller factory, therefore scale and reach of impact was more challenging and it was also influenced by the COVID-19 pandemic with slow rate of increase in indicators showing benefits and high rates of decrease in the indicators showing losses, impacting the ROI. At Next Accessories, there was a steep decrease in the value of productivity likely due to COVID-19 from Year 2, which further impacts the results.

Esquire Knit Composite Ltd faced decreasing productivity and increasing attrition from Year 1 onwards likely due to COVID-19 related issues and therefore WASH-related costs offset benefits. In January 2021, the Bangladesh Garment Manufacturing Export Association (BGMEA) stated that unit average prices for knitwear products fell by 3.47% during 2020, while woven product prices dropped by only 1%.<sup>7</sup>

The impact of COVID-19 pandemic, as well as the different contexts and nuances between the factories, need to be considered when analysing the results, business benefits and ROI.

**The pilot research has generated some valuable insights on design principles for a WASH project with an ROI objective.**

**Table 4: ROI and payback period per factory**

Indicator	Factory	Result (\$)
Project ROI	Esquire Knit Composite Ltd	-5.40
	Fakir Fashion	9.04
	Next Accessories	0.35
Projected ROI (10 years)	Esquire Knit Composite Ltd	-9.21
	Fakir Fashion	30.03
	Next Accessories	-0.46
Payback period begins	Esquire Knit Composite Ltd	No break-even point
	Fakir Fashion	Year 1 within project period
	Next Accessories	Year 2 within project period, ROI increased before decreasing from Year 7 of projected period

Unlike the other factories, results from Next Accessories show the projected ROI increase and then reduce over the course of ten years. At the 7 year mark, the projected overall benefits start tapering off. This is because the positive benefits from WASH investment of reduced attrition and absenteeism manifest steadily over a longer length of time while some of the negative or constant indicators (such as productivity) are more influential indicators on the ROI so they start to outweigh the positive over time.

7. Monira M (2021). *Buyers pay lower price for top 20 Bangladesh apparel items*. Financial Express, Dhaka January 16. Available at: [thefinancialexpress.com.bd/public/trade/buyers-pay-lower-price-for-top-20-bangladesh-apparel-items-1610765594](https://thefinancialexpress.com.bd/public/trade/buyers-pay-lower-price-for-top-20-bangladesh-apparel-items-1610765594) (accessed 5 Aug 2022).

## Payback from the first year of the project

The payback period for Fakir Fashion is within the project period (within one year of project activity) and the financial benefits increase at a steady rate in the future (i.e. additional benefits, after attribution to WASH, are worth \$1.9 million after the project ends).

Next Accessories also showed a positive return within the project period, but this is expected to decrease in Year 7 following the project. Esquire Knit Composite Ltd did not show a positive return and it is not possible to identify a payback date.



■ Moushumi Khatun now has clean water and decent toilets at work and in her community, which has helped with her productivity at work. Narayanganj, Bangladesh. October 2021.

## Analysis of business benefits

On average across the three factories, the following trends in business benefits were identified. It is possible for a factory to show bigger gains overall but fall behind on one indicator or conversely show large gains on one indicator – but that benefit could be outweighed by potential CapEx costs, ultimately resulting in a negative ROI.



↓ Absenteeism attributed to WASH decreased by **15%**



↓ Attrition attributed to WASH decreased by **2%**



↑ Productivity attributed to WASH increased by **0.1%**



↑ Punctuality attributed to WASH increased by **5%**



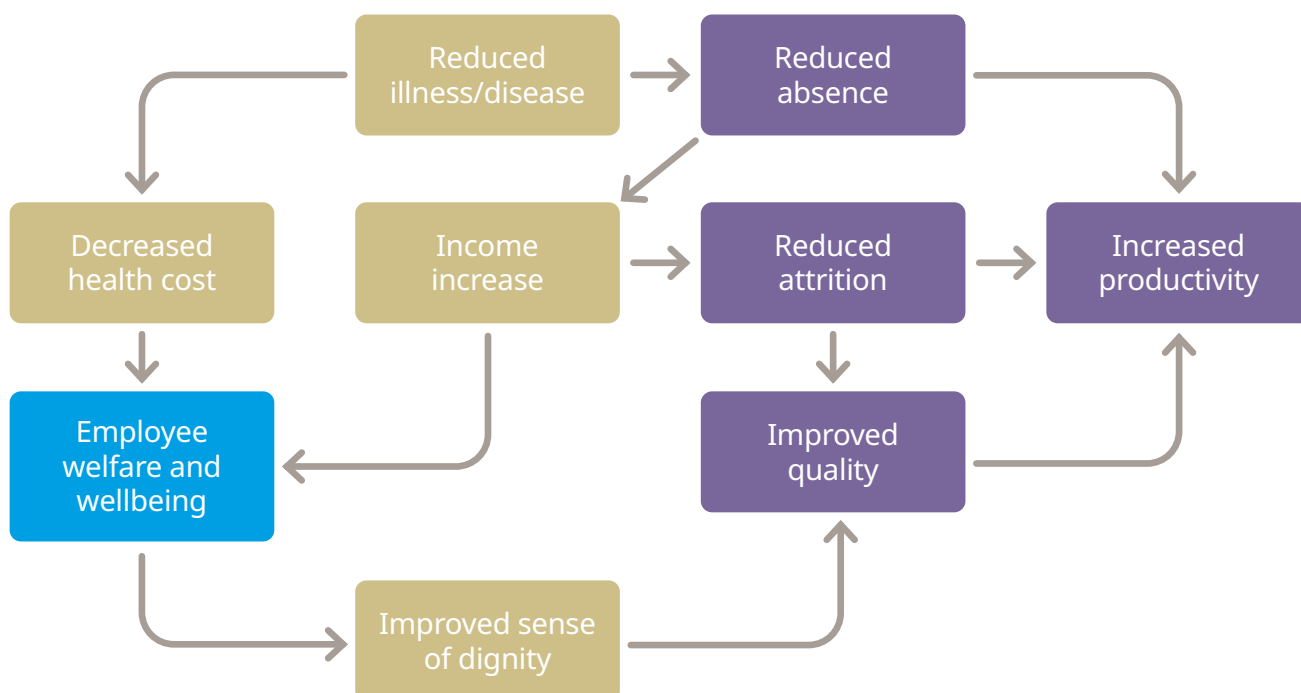
↓ Medical costs attributed to WASH decreased by **19%**



↑ Quality<sup>vi</sup> improvement attributed to WASH increased by **35%**

vi. Indicated by a corresponding decrease in the rate of rejection.

**Figure 6: The connections between the WASH intervention and business benefits**



Many of the outcomes from the WASH interventions, and subsequent business benefits, are interconnected. Following attribution calculations, it can be assumed that WASH interventions contributed to workplace performance and positive change for the businesses. Improvements to health due to improved WASH in the community are also considered to have had an impact on workplace performance and business benefits.

Additionally, each of the indicators themselves are interconnected and attributed to WASH, for example, reduced **absenteeism** leads to increased **punctuality**.

Increased income (5% compared with the baseline) is also likely to be a factor in the business trends, as this is associated with reduced **absenteeism** and **punctuality** and contributes to a decrease in **attrition**.

Figure 6 unpacks these interconnections between WASH interventions, outcomes, impacts and business benefits.



● Factory employees during their lunch break at Fakir Fashion. The new WASH facilities means that employees can now wash their hands before they eat. Narayanganj, Bangladesh. October 2021.

**Absenteeism** decreased over the project period. Overall, there was a 15% decrease in sick leave (associated with the decreased incidence of disease).

**“Through these initiatives, sickness among employees are reduced. As a result, absenteeism is also reduced as people are now in good health.”**

Mohammad Mohi Uddin Khan, Head of Human Resources, Esquire Knit Composite Ltd.

The number of garments being rejected on grounds of quality across all three factories decreased slightly compared to baseline and the medical costs borne by the health facility at two of the factories also showed a decreasing trend. There were ups and downs in staff turn-over during the project period, but overall attrition rates showed 2% reduction.

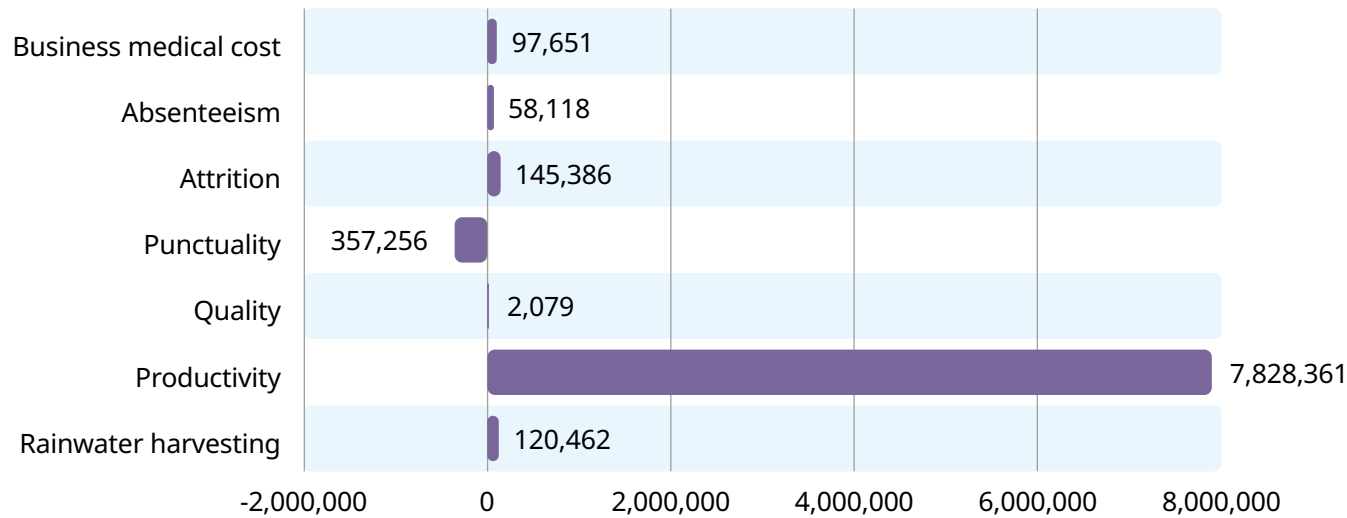
Discussions with factory management indicated that **absenteeism, attrition** and **punctuality** have a cumulative impact on **productivity**, perhaps explaining why it increased so much in comparison to other indicators and had the greatest effect on the ROI.

A 25% change in productivity has the potential to change the ROI by an average of 131% (ranging from -9% to 331%). Although this was only positive for Fakir Fashion and Next Accessories, it was an important indicator across all the factories.

Indicators related to quality (reduction in products failing quality checks) and punctuality consistently provided positive returns in two out of three factories, with the margins of change of quality being most notable.

**Across the three factories, the greatest improvement was seen in levels of productivity – which is expected to deliver a business benefit of \$7.8 million over the next ten years.**

**Figure 7: Cumulative value for all factories of business benefits 10 years after intervention (in USD) (data not adjusted for net present value)**



## Rainwater harvesting

The RWH system installed by Fakir Fashion provided environmental benefits and cost savings in terms of water supply and treatment. The RWH system meant less groundwater was abstracted for operational use and could instead be used to potentially provide drinking water to around 10,000 households (more than 43,000 people) for a year.

A total of 16,484m<sup>3</sup> of rainwater was captured and preserved during the project timeline, which was used for washing and dyeing clothes. The cost of the RWH system infrastructure was BDT 2,493,762 equivalent to \$29,689.41. From May 2020 to June 2021, total cost savings due to RWH were BDT 764,528, equivalent to \$9,102 (Table 5).



● Lutfa Hasin Ferdou supports employees to solve their complaints and works to ensure support to accelerate performance. Narayanganj, Bangladesh. October 2022.

**Table 5: Financial benefits of rainwater harvesting (May 2020 to June 2021)**

Period	Rainwater harvested (m <sup>3</sup> )	Total cost for water*	Total cost for water treatment*	Total cost savings due to RWH (BDT)	Total cost savings due to RWH (\$)
May–Jun 2020	2,068	77,302	18,612	95,914	1,142
Jul–Sep 2020	6,099	227,981	54,891	282,872	3,368
Oct–Dec 2020	1,088	40,669	9,792	50,461	601
Jan–Jun 2021	7,229	270,220	65,061	335,281	3,991
<b>Total</b>	<b>16,484</b>	<b>616,172</b>	<b>148,356</b>	<b>764,528</b>	<b>9,102</b>

\* Water cost BDT 37.38m<sup>3</sup> (as per rate of BEPZA) and treatment cost BDT 9.00m<sup>3</sup> (considering the average cost for Fakir Fashion)

## Employee satisfaction

**100%**



**of employees across the three factories said the WASH intervention had brought positive changes. 83% thought the project had contributed at the community level.**

**99%**



**of employees who are women working across the three factories who received MHH and handwashing messages saying these benefitted them.**

**“Many of my friends working with me were suffering from menstrual issues. Now they are doing much better once I advised them to use a sanitary pad. In our training session, we also learned how to maintain menstrual hygiene.”**

Roksana Khatun, factory employee at Fakir Fashion

## Social and sectoral benefits

By improving WASH services, and raising awareness, knowledge and practice in the employees' communities, as well as in the workplace, the project reached around 200,000 people (incorporating family members of all employees reached). That equated to 50% of the population in the three target Upazilas where the factories are located – nearly eight times the number of people working in the factories alone (based on the average family size in urban Bangladesh being 3.9 people).<sup>8</sup>

### Benefits observed in the wider community include:

- Fewer incidences of malnutrition among the children (down to 6% from 10%).
- Time saved due to having water close to home (average time decreased from 35 minutes to 22 minutes).
- Reduced open disposal of faeces and associated health risks (the baseline data did not reveal any safely managed toilets, the faeces usually ended up in an open space or ditch). Now, around 10,000 people have access to safely managed toilets in the area.
- Increased self-esteem, particularly among women and girls (41 out of 66 focus group discussions participants agreed to this).
- Greater engagement with advocacy and local politics (around 32 out of 66 focus group discussions participants thought this is true).

Improving WASH and demonstrating positive results from this investment at the three factories has provided evidence to persuade the wider RMG sector to act. By sharing the impacts, lessons learned and recommendations from the project, we can encourage more companies throughout the supply chain to improve WASH at work.

8. International Household Survey Network (2018). *Household Income and Expenditure Survey 2016-2017. Bangladesh, 2016-2017*. Available at: [catalog.ihnsn.org/index.php/catalog/7399/related-materials](https://catalog.ihnsn.org/index.php/catalog/7399/related-materials) (accessed 27 May 2022).

# 6

## Sector advocacy



● The rainwater harvesting system is a sustainable water source based on the roof of Fakir Fashion. It has helped reduce the factory's dependency on groundwater. Narayanganj, Bangladesh. October 2021.



● This team of textile employees at Fakir Fashion now have access to clean water and decent toilets whilst they are at work. Narayanganj, Bangladesh. October 2021.

The apparel industry has an important role to play not only in improving access to WASH for today's employees but also in supporting the longer-term sustainability of water resources in Bangladesh.

With a growing population and the impact of climate change being more widely felt (e.g., with longer drought periods), the RMG sector's excessive and unchecked extraction of underground water from aquifers could threaten people's basic supplies.

With purchase orders increasingly being shifted to Bangladesh supply chains from competitor countries, the risks are even greater – but so too are the opportunities if water use can be properly managed.

Working collaboratively with national trade bodies, such as the BGMEA, there is potential to promote employee welfare and holistic water management across the sector. Innovative solutions such as RWH, managed aquifer recharge, and other climate-resilient WASH solutions can help factories meet their environmental and social targets.

Companies, NGOs and trade bodies can strengthen future supply chain resilience and social license to operate for apparel brands and suppliers. WASH investment in the sector can also lead to business benefits linked to improved staff morale, reduced absence rates, increased productivity and enhanced brand reputation.



Minara Akter works alongside her colleagues in the printing section of Fakir Fashion. Narayanganj, Bangladesh. October 2021.

## Case study – Factory Supervisor



Minara Akter has been working at Fakir Fashion for 11 years and has recently been promoted to Supervisor. She's the first woman to ever hold that position in the printing section where she works. Since then, Minara has led the way for her fellow colleagues to step up into higher roles. **"This has motivated other girls in the factory too."** Minara said. **"After my selection, many female textile workers came forward, and now, they are actively participating in a leadership role."**

70% of Minara's colleagues are women. So, the lack of clean water and decent toilets meant that absenteeism was high as they struggled to juggle daily chores and collecting water, with their jobs at the factory. **"After queueing for water in their slum and finishing daily chores, they could not come to the factory on-time. This is not in their hands."** Minara said.

Since the WaterAid and HSBC initiative to improve WASH for the factory employees and their families in Narayanganj, there has been a noticeable change, especially for Minara, who is pregnant with her second child: **"During my first pregnancy, I had no access to proper sanitation and did not know how to maintain adequate hygiene,"** she said.

**"Now during my second pregnancy, I have an available water supply and access to sanitation. At every corner of our factory, we have a handwashing station with running tap water."**


Aside from her duties as a Supervisor, Minara has also been running hygiene workshops. **"We learned how to wash hands properly and how we can maintain good hygiene at home and the factory."** Minara also spoke of the training they received at the factory on menstrual health and hygiene: **"The support and guidance has helped me to understand the importance of being well. For example, we have never used sanitary pads before. Once WaterAid installed the vending machine, we understood the importance of menstrual hygiene,"** she said.

Minara is excited for the future and hopes to inspire and educate more people who come to work in the factory: **"In every session, a participant shared how their lives have been changing. After eleven years of work now, I am living a healthy life and saving for a better tomorrow."**



# 7

## Learnings and recommendations



● Shamima Khatun, Textile Producer,  
at work inside the Fakir Fashion factory.  
Narayanganj, Bangladesh. October 2021.

**Capital Expenditure (CapEx) on a project can be daunting and returns might not be immediate, but companies should aim to implement WASH solutions where there is scope to do so, where suppliers are engaged and supportive, and where improvements can be made at work and in employees' communities.**

**Solutions do not always require large capital expenditure, with some low-cost solutions providing big results.**

### Design principles

These elements should be considered by the company and implementing partner when trying to execute a successful WASH programme where there is an objective of business return:

- **Take time** to understand the sector and the business, as well as their objectives, commitments and priorities.
- **Solicit** senior level engagement and ensure that suppliers are engaged and supportive of what needs to be implemented.
- **Identify** the 'low-hanging fruit' where there is scope for making improvements in workplace WASH provision and consider the communities where the employees live.
- **WASH** solutions should be context specific and climate resilient – designed for the business and objectives of the project.
- **Consider** effort vs. reward when identifying WASH solutions for the business, large CapEx isn't always required.
- **Consider** potential of reach, scale and replication across the business.
- **Leverage** funding from government or other stakeholders which both offsets the company costs but also enhances the outcomes and results.

### Improving WASH is good for the bottom line

The overall average ROI from the project was positive, providing evidence that investing in WASH can bring financial benefits in the RMG sector, especially for large factories where the scale and reach is great. The findings also indicate that the financial benefit can increase further in the decade after an intervention.

**Recommendation:** Spot the opportunities of scale with large factories to leverage impact with many employees. Use the financial benefits of investing in WASH, as well as the obligation to respect the human rights of employees, to advocate improvements to WASH services and behaviours at work. Include the long-term ROI in initial discussions.

### Improved employee welfare leads to cumulative impact on productivity

Improvements in WASH impacts various indicators linked to employee welfare, which then lead to a greater cumulative impact on productivity. Absenteeism, attrition, quality, punctuality, incidence of disease/illness all have a cumulative impact on productivity, perhaps explaining the size of the increase in productivity compared with the other indicators.

**Recommendation:** Consider all the knock-on socio-economic benefits when advocating WASH improvements for employees. These are likely to contribute to increased productivity, with an impact on ROI.

■ Shamima Khatun and her colleagues now have WASH facilities at their workplace, so their health and productivity has improved. Narayanganj, Bangladesh. October 2021.



### ■ Think bigger than the business

There is clearly value in improving WASH in the wider community where employees live, as well as in the workplace. Improved health and wellbeing at home will affect employees in the RMG factories. WASH improvements in the community can be linked to business benefits.

**Recommendation:** For better and more sustainable results, take a holistic approach. Include improvements to WASH in the community in plans to improve services and behaviours at work. Businesses can bolster their profits while doing social good.

### ■ Ongoing benefits

The impact of a WASH intervention does not end with the project. With a small amount of investment in ongoing training, reinforcement of behaviours, and ongoing operation and maintenance, the benefits of the initial action can be reaped for decades.

**Recommendation:** When advocating improvements to WASH services and behaviours at work and in the community, think long term and project the project ROI and business benefits over 10 years or more. WASH champions at work and in the community have proven to be effective – invest in those advocates, as well as in ongoing training, awareness campaigns and reinforcement activities.

### ■ Invest time in relationships

A good relationship between the factory, brand/buyer and implementing partner (where relevant) is central to the success of a project and achieving long-term benefits. The management at each RMG factory were engaged, resulting in successful projects. At Fakir Fashion, we saw the best results due to the high level of engagement from the management team, which in turn lead to a longer running project, a stronger relationship and better results.

**Recommendation:** Don't underestimate the time taken to build relationships between factory management, the brand/buyer, and implementing partner (where relevant). Expect changes in personnel and shifts in priorities, and build buffer time into the project accordingly.

Be open and transparent, and work together to define solutions.

## Call to action

Resilient and prosperous communities, industries and economies are built on strong foundations. WASH is vital to the health and safety of everyone, everywhere, critical to business resilience, supports the ambitions of the SDGs, and has the potential to deliver a financial return on investment. It must be considered a core business priority rather than an act of philanthropy or corporate social responsibility.

The apparel industry has an important role to play in WASH investment, and in supporting the long-term sustainability of water resources.

By investing in WASH facilities, particularly those that are climate-resilient, the apparel industry will realise its employees' rights, improve health and wellbeing, and promote holistic water management across the sector.

Through business, government and civil society working together, we can achieve 100% access to safe and sustainable WASH in the workplace, supply chains and communities by 2030, and deliver the SDGs.

### **To build a strong business, take the following actions:**

- Invest in WASH in the workplace, supply chains and communities.
- Seek expert advice to learn how and where your organisation can benefit from WASH intervention.
- Understand the private sector's role in managing and mitigating social, economic and environmental risks.
- Become a water steward in your sector and make sustainable WASH a unique selling point of your business.



How could your company benefit from WASH investment?  
To find out, visit  
**[wateraid.org/boosting-business](https://wateraid.org/boosting-business)**



● Front cover image: Minara Akter has worked at Fakir Fashion for 11 years and has seen big improvements in the health of her colleagues and community since the WaterAid and HSBC project started. Narayanganj, Bangladesh. October 2021.

**WaterAid is an international not-for-profit, determined to make clean water, decent toilets and good hygiene normal for everyone, everywhere within a generation. Only by tackling these three essentials in ways that last can people change their lives for good.**

● Moushumi Akter, Textile Worker, washes her hands before she starts her shift at Fakir Fashion. Narayanganj, Bangladesh. October 2021.

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