

KALEIDOS  
RESEARCH

# FOOTBALL 4 WATER 1.0 (2012 - 2016)

Baseline – end line data comparison

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# INTRODUCTION

Football 4 Water (F4W) is an innovative partnership aiming to address the continuing challenge of providing adequate water and sanitary hygiene (WASH) provisions in schools<sup>1</sup>. In the programme, implemented between 2012 and 2016, football is used to teach boys and girls in primary schools about healthy living. Together with installing drinking water points and building toilets at their schools, the aim is to improve both the health of pupils and their performance at school. The partnership consists of Dutch organisations (Aqua for All, UNICEF, Vitens Evides International, Simavi, AKVO, the Royal Dutch Football Association and the Ministry of Foreign Affairs), in collaboration with their counterparts in the three countries where the programme was implemented: Ghana, Kenya and Mozambique.

While the value of school-based WASH interventions has been proven before<sup>2</sup>, the underlying idea of F4W's combination is that integrating WASH concerns into football will lead to better uptake of hygienic behaviour among pupils<sup>3</sup>. In addition, it is expected that this integrated approach will lead to increased social cohesion under pupils and increase the commitment of various stakeholders, such as government, school or the community. The programme also aims to foster commitment of stakeholders to ensure the sustainability of the outcomes of the programme for the long run, which is an issue for many WASH programmes. As facilities require continuous resources for operations and maintenance (O&M), facilities cannot simply be built and left; local ownership of the intervention is required to ensure continued effectiveness. Although the initial costs of the F4W intervention is estimated to be slightly higher than a regular WASH intervention, this increased sustainability is expected to offset those additional costs in practice.

## **This report**

This report provides a summary of the main results of the Football 4 Water integrated WASH + Football in school programmes as implemented in Ghana and Kenya between 2012 and 2016, each in separate chapters<sup>4</sup>. Both chapters provide a brief analysis of the main outcomes as described in the programme's theory of change (ToC)<sup>5</sup>. The data was collected by partners through Akvo Flow as part of the Planning, Monitoring and Evaluation cycle at the start and the end of programme period (2012 – 2016). Since there is no data available on actual behaviour change (e.g. increased use of facilitations among pupils and/or increased hygienic behaviour), the analysis focusses mostly on (a) physical interventions, such as the direct output of the programme, and (b) whether basic preconditions for community involvement are in place. The latter is expected to lead to financial sustainability.

We have grouped the different key indicators into four categories: sanitation, drinking water, community/football and sustainability, and compared baseline and end line data of schools to see whether schools improved their performance in these four categories after programme implementation. Besides, additional analyses were conducted to see whether two background variables (school size and school setting) have an influence on the performance of the schools.

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<sup>1</sup> UNICEF, 2015, [https://www.unicef.org/wash/schools/files/Advancing\\_WASH\\_in\\_Schools\\_Monitoring\(1\).pdf](https://www.unicef.org/wash/schools/files/Advancing_WASH_in_Schools_Monitoring(1).pdf)

<sup>2</sup> J. Young (2017). *School-based Water, Sanitation and Hygiene interventions an effective means to promote hygienic behaviour amongst school children*. Amsterdam: Kaleidos Research/ Stichting NCDO

<sup>3</sup> See also Annex 3 for Theory of Change.

<sup>4</sup> The case of Mozambique is not included since there is no baseline information available for this country.

<sup>5</sup> It must be noted that this theory of change is an outcome of the first phase of F4W and was developed while measured schools were being implemented.

## **Methodology**

In order to measure change over time, we selected the schools that participated in the programme with both baseline and end line data available. The data was collected by partners, either program staff or independent consultants that were hired as data collectors, through Akvo Flow at the start and the end of programme period (2012 - 2016).

For Ghana, information was available for a total of 256 schools of which 126 schools could be matched on both baseline and end line surveys<sup>6</sup>. For Kenya, we could match 72 schools out of 173 schools in total<sup>7</sup>. As the baseline survey was adapted a few times, some questions could only be compared for smaller sample sizes.

There was no unique identifier available per school, so baseline and end line data set were matched by an Akvo employee via the GPS location code of the schools and, in addition, manually by school name (by Aqua for All).

To test whether found changes between baseline and end line data were significant, we used McNemar's test (nominal variables), Wilcoxon tests (ordinal variables) and paired t-tests (interval variables).

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<sup>6</sup> In the case of Ghana, 42 schools had only a baseline survey, and 88 schools had only an end line survey.

<sup>7</sup> For Kenya, 64 schools only had baseline surveys. For 37 schools, only end line surveys were available.

# 1. GHANA

For Ghana, the following analyses in the longitudinal part of this chapter are based on the 126 schools for which both base- and end line surveys were available. Although all schools had identical end line surveys, four different baseline surveys (n=2, 12, 27 and 85 respectively) have been conducted. As some questions were not included in certain baseline surveys, this means that for some analyses the sample size was lower than 126. Annex 1 provides an overview of all the indicators and their respective values and levels of significance.

## 1.1. Sanitation<sup>8</sup>

- The clear majority (84%, n=126) of schools met the norm<sup>9</sup> of 50 **pupils per toilet** at the end line measurement. Here, it should be noted that cluster schools in the dataset could distort this measurement, as the way facilities are shared and surveyed is not documented consistently.
- Most schools (86%, n=126) now have **separate facilities** available for girls, boys and teachers, as well as at least one toilet for disabled people (92%, n=33).
- Girls can **change their menstrual pads** in either a girls' latrine or separate bathroom in 87% of schools (not measured in baseline, so no comparison possible), 62% of schools currently **provide menstrual pads** for their pupils, as opposed to 2% prior to the programme (n=40).
- The proportion of schools meeting the norm of 100 **users per handwashing facility** has risen (54%, n=63). This implies that almost half of schools still do not meet this norm.
- **Soap or ash** is now almost always available for the most of the school's facilities (83% and 95%, n=41 and n=79).
- The observed visible **cleanliness of facilities** has improved. The percentage of schools whose facilities are classified as either 'acceptable' or 'excellent' has increased from 65% to 93% (n=81).
- The cleaning at the schools is better organized. Over 96% of the schools now have a daily **cleaning schedule** installed that is also executed, as opposed to 64% before.
- **Toilet paper** is normally available in 68% of schools (n=120). This question was not in baseline surveys, so it is unknown what the change has been on this indicator.
- There are less signs of open defecation around the schools. Currently 18% of the schools show signs of **open defecation** in school surroundings, versus 61% in the baseline (n=110).

Overall, most of the indicators for sanitation show a significant improvement during the F4W implementation period, suggesting that the core preconditions to facilitate hygienic behaviour change among pupils have improved on most schools in Ghana.

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<sup>8</sup> Most results are statistically significant at the >95% confidence level, unless noted otherwise.

<sup>9</sup> As described in the baseline report.

## 1.2. Drinking water

- The number of **pupils per water point** already met the norm of 1,500 pupils per water point in all baseline studies, but further improvements have been made. The average is now 115 users per water point, and the maximum density has reduced from over 1,400 pupils to a little over 950 pupils (n=63).
- In the small sample available (n=25), there was a (significant) *decrease* in the number of schools with **water available** for 7 days a week **in the dry season**<sup>10</sup>.
- Pupils need to walk less far to get water at the end of the programme period. Most schools are now **less than** 100 metres away **from a water source** (83% versus 20%, n=126).
- The number of schools with a water point located at least 50 metres from a **contamination source** has remained unchanged (88% versus 89%, n=25).
- The number of **breakdowns of water facilities** has decreased. Now, 78% of the schools (n=25) face no more than one breakdown of facilities per month. At the start, this was 27% of the schools, while the remainder of the schools faced more than one breakdown per month.
- Observations show that the vast majority of schools have a **functioning main water source** at the time of the visit (97%, no significant change from 93%, n=27).
- According to observations, almost all schools **cover and clean their drinking water storage** containers properly (97%, no baseline available, n=126).
- At the time of the researchers' visit, **water was available at handwashing** stations at 86% of the schools. This means a significant improvement compared to the baseline study (34% n=41).

Indicators for drinking water also show improvement for most schools. The indicator for water availability in dry season shows significant *negative* change, which is probably also related to recent years of drought in Ghana. It may be advisable to follow up on this, to see whether this is indeed due to an external problem (drought), or a symptom of incomplete/faulty data collection, or whether something is indeed preventing year-round water availability.

## 1.3. Community/football

- While few schools indicate that the **community uses their water** (9%, n=121, no baseline) or **sanitation** (14%, n=120, non-significant change from 16%), most schools' **football facilities are publicly accessible** (94%) - almost always for free (n=123, no baseline).
- The number of schools that has **staff trained** in school on Operation and Maintenance (O&M) of WASH and Football facilities rises from 1% to 95% (n=126).

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<sup>10</sup> It should be noted that this could reasonably be due to consecutive years of (extreme) drought in Africa in recent years.

- The programme has enabled 90% of schools to have at least one member of the staff to be trained as a **world coach** (n=126). Four out of 10 schools have at least **one female world coach**, whereas 31% of schools have both a female and a male world coach. When we include **community world coaches**, these numbers raise to 42% and 39%, respectively.
- In terms of **outreach programmes**, most schools opt for community training programmes like PHAST (58%, n=126), while the remainder use other programmes (20%) or no outreach efforts at all (22%). The majority of the schools using the PHAST programmes (75%, n=73) reaches between 100 and 500 people. One out of 5 schools using PHAST (19%) reached less than 100 people, while 5% reached over 500 people. The schools that used other programmes (n=25) show a higher community outreach compared to PHAST: half of them (52%) are thought to have reached more than 500 people. 28% reached between 100 and 500 people, while the remainder (20%) reached less than 100 people.
- As per the objectives of the programme, almost all schools (99%, n=126, no baseline) are reported to have **football activities** for both boys and girls.

Again, most schools show progress on indicators relating to community and/or football. Gender disparities are visible in the number of female world coaches. This could impact the (effectiveness of) the programme in terms of changing girls' behaviour, and thereby its aims in terms of raising attendance and gender equality more generally.

#### 1.4. Finance / Sustainability

- To increase commitment, schools are encouraged to sign a Memorandum of Understanding (**MoU**). At the end line, 96% of the schools have signed such an MoU (n=214).
- One out of 10 schools say they can cover at least half of the **operations and maintenance costs (O&M)** of the programme (11%, n=214). Only 1% of the school managements think they can cover at least three quarters of these costs.

The financial sustainability of the programme is still questionable in many schools. Most schools seem not to be able to cover (a significant part of) the costs for operations and maintenance.

#### 1.5. Background variables

Besides the longitudinal analysis to see if there is a change over time, we tested whether school size and location have an influence on the performance of the schools. Does it matter if a school is in a rural or urban setting when we look at for example drinking water facilities? And are schools with relatively few pupils more likely to meet the norms of pupils per water point compared to larger schools? Results for these analyses are shown in Annex 2.

The results show that school size is relevant in terms of meeting the norms for pupils per seat and pupils per handwashing points. In both cases, larger schools performed worse than expected, while smaller schools performed significantly above average.

The school environment seems to matter for two gender-related indicators: separate toilets and possibility to change menstrual pads. In both cases, rural schools are more likely not to provide these options.

In addition, signs of open defecation are significantly more common at peri-urban schools, but significantly less common for urban schools.



## 2. KENYA

For Kenya, baseline and end line data of 72 schools could be matched. However, this was not the case for all questions, since four different baseline surveys (n=4, 12, 17 and 39 respectively) were used. As a result, the baseline and end line data could be compared on a limited amount of questions, and in some cases, the samples dropped to relatively small sizes (n<30).

### 2.1. Sanitation<sup>11</sup>

- The number of toilets for the **disabled** has increased. Now, 93% of the schools have a toilet for disabled people, compared to 34% at the baseline (n=29)<sup>12</sup>.
- In 90% of the analysed schools (n=29), girls can **change their menstrual pads**. This means a significant increase compared to the 48% at the baseline study. In addition, all of the questioned schools with both base- and end line information (n=12) now **provide menstrual pads** for their pupils, as opposed to 17% prior to the programme.
- The number of **handwashing facilities** has significantly risen since the start of the programme: from an average of 1 per school to 5 facilities per school at the end line (n=60). This means that the number of **users per handwashing facility** also has decreased.
- The **cleanliness of facilities** has improved. The end line shows that 83% schools (n=68) have facilities that are classified as either 'acceptable' or 'excellent'. At the start of the programme, this was 71%.
- The number of schools that work with to a daily **cleaning schedule** has significantly increased. 90% of the schools now work according to a cleaning schedule, as opposed to 64% before the start of the programme (n=72).
- The signs of **open defecation** have dramatically dropped. The baseline survey documented 79% of schools with signs of open defecation. This dropped to 6% of the schools (n=72) with documented signs of open defecation in the end line survey.
- The number of schools with **improved types of sanitation** has increased. At the start of the F4W programme, 28 schools had improved types of facilities. At the end line, there are 61 schools with improved facilities.
- Despite the growing number of facilities, the **norm of 100 users** per handwashing facility is not met in most cases. One out of 5 schools (n=30) meet this norm.
- The reporters observed **soap or ash** in 2 out of 29 schools at the time of their visit. When asking for the availability of soap or ash, however, the results show that 26% of the schools (n=58) claim

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<sup>11</sup> Unfortunately, information is missing on the number of sanitary facilities in the dataset of Kenya, and whether there are separate facilities for boys and girls and teachers and pupils or not.

<sup>12</sup> Results are statistically significant at the >95% confidence level, unless noted otherwise. Annex 2 at the end of this chapter provides an overview of all indicators and their respective values and levels of significance.

to have soap or ash available (sometimes). The baseline survey reported 10% soap or ash availability, so this means a significant improvement.

- There is a lack of toilet paper: one out of 12 schools report having **toilet paper** at the end line measurement.

Overall, we see mixed results. There have been several significant improvements during and after the F4W programme. For example, there are more sanitary facilities at the schools and less signs of open defecation. In addition, more schools now have installed and executed cleaning schedules and the level of cleanliness has improved. At the same time, however, the norm of max 100 pupils per facility is met in only 20% of the schools. There is also a lack of toilet paper and of soap or ash to wash hands. This lack of materials could hinder hygienic behaviour change in pupils.

## 2.2. Drinking water

- At the start, the schools (n=36) had an average of 654 **pupils per water facility**. This number has dropped to 335 pupils per water point after the implementation of the programme. The maximum density is now 997 pupils per water point, compared to 1,863 at the start.
- The **water quality** has significantly improved. At the baseline, only 11% of the schools (n=26) met the quality standards. This increased to 91% at the end line study.
- At the start of the programme, already 77% of the schools met the norm of having a **water source available within 100 metres**. This percentage further increased to 91% of the schools (n=22, no significant change).
- Schools face less **breaking down of water facilities**. The number of schools with *at most* one breakdown of facilities per month has increased from 23% to 45% (n=23). This indicates an improvement, since there were more schools with more than one breakdown per month at the start. However, this change is not significant.
- Observations show that 6 out of 10 schools have a **functioning main water source** (from 59% to 62% n=29) and 4 out of 10 schools have **water available at their handwashing stations** (from 10% to 38%, n=29). All the investigated 12 schools (100%) now **cover and clean their water storage containers** properly (compared to 16% at baseline).
- The number of schools with **water available** for 7 days a week **in the dry season** dropped from 39% at baseline, to 30% at end line (n=23). Although this decrease is not significant, it does indicate that there is no improvement in the availability of water either.
- The percentage of schools with a water point located at least 50 metres from a **contamination source** dropped (non-significantly) from 96% to 78% (n=23).

There are some signs that the conditions for drinking water have improved. The number of pupils per water point decreased (and thus improved) and the quality of the water is significantly better. However, all the other indicators show no or a negative change. This might also be caused by incomplete/faulty data collection, since sample sizes are generally relatively small.

### 2.3. Community/football

- The **community's use** of school's sanitation has significantly dropped from 42% to 4% (n=72). One out of 3 schools indicate that the community uses their water (32%, n=68, no baseline).
- The vast majority (82%, n=72, no baseline) of school's **football facilities are publicly accessible**.
- Almost all schools (96%) have **trained staff** for both WASH and football aspects of operation and maintenance (O&M) at the end line survey (n=72, no baseline information).
- The programme has enabled almost all schools (99%, n=72, no baseline) to have at least one member of staff to be trained as a **world coach**. There are no signs of gender disparities: 81% of the schools have at least **one female world coach**, whereas 72% of schools have both a female and a male world coach.
- Almost 6 out of 10 schools (58%, n=72, no baseline) organized activities to reach the community. One out of 3 schools (n=52) reached over 500 people with these programmes.
- Nearly all schools (94%, n=72, no baseline) organised **football activities** for both boys and girls.

### 2.4. Finance / Sustainability

- All the schools (n=72) have signed a **Memorandum of Understanding (MoU)** at the end line. In addition, almost all schools have a **financial plan** (93%) that covers both Operation and Maintenance (O&M) of WASH and football facilities and materials.
- Almost all of the schools say they are able to **pay for the replacement of a football** (96%, n=72).
- Cost recovery for **operations and maintenance costs (O&M)** remains a challenge (n=72, no baseline). One out of 4 schools claim they can cover between 25% and 50% of these costs; 3 out of 4 think they can cover less than 25% of the total O&M costs.
- The main source of funding are grants provided by the government. Almost all schools rely on **public resources** to cover the costs of operations and maintenance and replacement costs of the facilities.

The programme aims to improve financial sustainability of the interventions. It is promising to see that (almost) all schools signed an MoU and set up a financial plan. But as most schools (75%) state they can provide only up to 25% of the resources needed – financial sustainability remains a challenge. All the schools rely heavily on public sources to cover costs of the programme.

### 2.5. Background variables

There are no significant relationships between school characteristics and results on the different indicators in the case of Kenya. In other words, school size and/or environment (rural, peri-urban or urban) are not relevant for whether or not schools are able to meet the expected results of the programme. The only exception is if girls can change their menstrual pads. In rural environments, schools are less likely to provide facilities where girls can change pads.

## 3. SUMMARY

### **Sanitation**

In Ghana, all the indicators (number of facilities, level of cleanliness and hygiene) show significant positive improvements. The needed infrastructure to encourage hygienic behaviour change is in place in most schools. In Kenya, there is still room for improvement. At the end line measurement, the norm of max 100 pupils per hand wash facility was met in just 20% of the schools. There also seemed to be a lack of toilet paper and of soap or ash to wash hands.

### **Drinking water**

The facility and quality of drinking water in Ghana have increased for most schools. In Kenya, these changes are less convincing. Most indicators show no or even negative results, except a decrease in the number of pupils per water point and an improved water quality. In both countries, the availability of water year-round shows negative change. There is less water available during dry season, which might reasonably well be due to the extreme drought in Central and East Africa in recent years.

### **Community/ football**

A significant number of schools show positive progress on indicators relating to community and/or football. Football events are held for both girls and boys, and the community is reached by different events and programmes. In Ghana, there is a lack of female world coaches, which could be a barrier to change girls' behaviour. This also contrasts with the programme's aim to raise awareness for gender equality. In Kenya, there is no sign of gender disparities in terms of world coaches.

### **Sustainability**

In both countries, schools struggle to secure financial sustainability. Although most of them signed an MoU with the stakeholders and drafted financial plans, it remains a challenge to cover costs for the O&M themselves. In Kenya, most schools can cover 25% of the costs for operations and maintenance. In Ghana, most schools are not able to cover a significant part of the costs for O&M.

## 4. RECOMMENDATIONS FOR FUTURE SURVEYS

The collection of surveys was problematic, with significant delays and/or questionable validity of the results. As noted in the Mid-Term Review, targets may have been overly ambitious, giving rise to such delays. As for monitoring progress, missing data can hinder proper implementation and, where necessary, (re-)adjustment.

1. Base- and end line surveys had to be manually matched. Instead, have a country-by-country list with schools participating in the programme, with unique identifiers for each. Let enumerators pick the school from a closed question based on this list.
2. Four different baseline studies were used in both countries, in which different subsets of questions were asked. As a result, sample sizes often dropped to small numbers, making results less robust. For some indicators, longitudinal analyses were impossible due to the absence of baseline information. The future use of comparable baseline and end line surveys is highly recommended.
3. Ambiguity exists around several questions (e.g. how to treat shared facilities, what 'school income' as a revenue source means), and the way enumerators and school staff interpret and respond to these. Provide a more detailed surveying guide, outlining criteria for answering questions.
  - a. Test new survey designs in a pilot, to quickly identify potential issues with question phrasing / answer categories.
  - b. Split questions regarding implementing partners according to their role (e.g. responsible for WASH or football).
4. The tool used for surveying, AKVO Flow, is constantly evolving and adding new features. However, restraint in the use of new features is necessary, because – as shown by the current data – the continuity and inter-comparability of surveys can be significantly reduced, reducing the value of data collected.
5. The collected data focuses mainly on outputs, deliverables that the programme promises to accomplish. It is not surprising that sanitation and football facilities and drinking water conditions improved at schools, because this is exactly what the programme is aimed to do. The data however gives less insight on the actual impact at schools: are facilitations used and behaviour changed? We would advise to limit the monitoring of outputs to the essentials, leaving more room for survey questions that focus on the outcomes of the programme.

# ANNEX 1

**Table 1a.** Results change analysis Ghana

Indicator	Sig.	Before	After	n
<b>Sanitation</b>				
Pupils per toilet – norm (50 pupils/toilet)	***	56%	84%	126
Separate toilets boys/girls/teachers	***	40%	86%	126
Disabled toilets	***	50%	92%	33
Menstrual pads available	***	2%	62%	40
Possibility to change menstrual pads	N/A	N/A	87%	126
Handwashing – norm (1 facility/100 users)	**	50%	92%	63
Availability of soap/ash (observation)†	***	29%	83%	41
Availability of soap/ash (reported)†	***	10%	95%	79
Cleanliness of facilities‡	***	65%	93%	81
Cleaning schedule†	***	64%	96%	80
Availability of toilet paper†	N/A	N/A	72%	120
Signs of open defecation	***	61%	18%	110
<b>Water</b>				
Pupils per water point	***	388	273	63
Schools with water available 7 days a week	**	65%	28%	25
>50m from contamination sources		88%	89%	25
Distance to water source <100m	***	20%	83%	126
Water quality tested and within limits	***	11%	91%	26
At most 1 breakdown of water facilities a month	***	27%	78%	25
Functioning water supply (observation)		93%	97%	27
Properly covered water supply (observation)	N/A	N/A	97%	126
Water available at handwashing stations (observation)†	***	34%	86%	41
<b>Community / football</b>				
Community use of water	N/A	N/A	9%	121
Community use of sanitation		16%	14%	120
Community use of football fields†	N/A	N/A	94%	123
Staff trained for O&M (both WASH and football)	***	1%	95%	126
At least one female world coach	N/A	N/A	40%	126
At least one male and one female world coach	N/A	N/A	31%	126
At least one female world coach (incl. community)	N/A	N/A	42%	126
At least one male & female world coach (incl. community)	N/A	N/A	39%	126
Football activities for boys and girls	N/A	N/A	99%	126
<b>Finance/Sustainability of intervention</b>				
MoU signed (50% in mid-term review)	N/A	N/A	96%	214
Percentage of schools covering at least 50% of O&M finance	N/A	N/A	11%	214

Note: Where significance and before are reported as N/A, the baseline sample size was too small (n<20) for any meaningful result.

† Variable with more than two categories, reported percentage is proportion of schools in the highest category.

‡ % reported as either 'acceptable' or 'excellent'.

Significant differences between baseline and end line: \* p<0.05 \*\* p<0.01 \*\*\* p<0.001

**Table 1b.** Results background variables

Indicator	School size	Environment
Pupils/seat norm	***	-
Separate toilets	-	***
Possibility to change menstrual pads	-	**
Signs of open defecation	*	***
Pupils/handwashing point norm†	***	**
Water available for 7 days/week	-	-
Distance to water	*	-
Male & female world coaches (including comm. coaches)	-	-

† n=200, for all other variables n=214. / \* p < 0.05, \*\* p<0.01, \*\*\* p<0.001

## ANNEX 2

**Table 2a.** Results change analysis Kenya

Indicator	Sig.	Before	After	n
<b>Sanitation</b>				
Pupils per toilet – norm (50 pupils/toilet)	x	x	x	0
Separate toilets boys/girls/teachers	x	x	x	0
Disabled toilets	***	34%	93%	29
Menstrual pads available	**	48%	90%	29
Possibility to change menstrual pads	N/A	17%	100%	12
Handwashing – number of facilities	***	1,28	4,62	60
Handwashing –users per facility	***	484	264	30
Handwashing – norm (1 facility/100 users) <sup>‡</sup>	-	7%	20%	30
Availability of soap/ash (observation) <sup>†</sup>	-	10%	7%	29
Availability of soap/ash (reported) <sup>†</sup>	***	10%	26%	58
Cleanliness of facilities <sup>‡</sup>	*	71%	83%	68
Cleaning schedule <sup>†</sup>	***	57%	90%	72
Availability of toilet paper <sup>†</sup>	N/A	0%	8%	12
Signs of open defecation	***	79%	6%	72
Improved type of sanitation	***	39%	85%	72
<b>Water</b>				
Pupils per water point	***	654	335	36
Schools with water available 7 days a week	-	39%	30%	23
>50m from contamination sources	-	96%	78%	23
Distance to water source <100m	-	77%	91%	22
Water quality tested and within limits	***	11%	91%	26
At most 1 breakdown of water facilities a month	-	23%	45%	23
Functioning water supply (observation)	-	59%	62%	29
Properly covered water supply (observation)	N/A	16%	100%	12
Water available at handwashing stations (observation) <sup>†</sup>	-	10%	38%	29
<b>Community / football</b>				
Community use of water	N/A	N/A	32%	68
Community use of sanitation	***	42%	4%	72
Community use of football fields	N/A	N/A	82%	65
Staff trained for O&M (both WASH and football)	N/A	N/A	96%	72
World coach	N/A	N/A	99%	72
At least one female world coach	N/A	N/A	81%	72
At least one male and one female world coach	N/A	N/A	72%	72
Football activities for boys and girls	N/A	N/A	94%	72
Outreach community	N/A	N/A	58%	72
Outreach community – number of people >500	N/A	N/A	33%	42
<b>Finance/Sustainability of intervention</b>				
MoU signed (50% in mid-term review)	N/A	N/A	100%	72
Percentage of schools covering at least 50% of O&M finance	N/A	N/A	0%	72

Note: Where significance and before are reported as N/A, the baseline sample size was too small (n<20) for any meaningful result.

<sup>‡</sup> This excludes n=31 schools without any handwashing facility at the baseline

<sup>†</sup> Variable with more than two categories, reported percentage is proportion of schools in the highest category.

<sup>‡</sup> % reported as either 'acceptable' or 'excellent'.

Significant differences between baseline and end line: \* p<0.05 \*\* p<0.01 \*\*\* p<0.001. '-' means p>0.05.



**Table 2b.** Results background variables

Indicator	School size	Environment
Pupils/seat norm	-	-
Separate toilets	-	-
Possibility to change menstrual pads	-	**
Signs of open defecation	-	-
Pupils/handwashing point norm	-	-
Water available for 7 days/week	-	-
Distance to water	-	-
Male & female world coaches (including comm. coaches)	-	-

n varies from 84 to 144 / \* p < 0.05, \*\* p<0.01, \*\*\* p<0.001

# ANNEX 3

## Football for Water 2.0 - Theory of Change

