

Mid-Term Evaluation

**UNICEF 'Improving WASH facilities in prioritized schools
in the West Bank and Gaza Strip (2012-2014)' Project**

'WASH in School' Program

Conducted by

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Acronyms

AusAid Financial support of Government of Australia

CFS Child Friendly Schools

CMWU Coastal Municipalities Water Utility

EOI Expressions of Interests

FGDs Focus Group Discussions

GS Gaza Strip

GHWD Global Hand washing Day

KAP Knowledge, Attitudes and Practices

lpcd Liters per capita per day

MoEHE Ministry of Education and Higher Education

NGO Non-Governmental Organization

SoP State of Palestine

OPT Occupied Palestinian territory

PCBS Palestinian Central Bureau of Statistics

PWA Palestinian Water Authority

ToT Training of Trainers

UNESCO The United Nations Educational, Scientific and Cultural Organization

UNICEF United Nations Children's Fund

WASH Water, Sanitation and Hygiene

WB West Bank

WHO World Health Organization

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1.0 Executive Summary

1.1 Overview of the evaluation object

This UNICEF 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip (2012-2014)' Project Mid-term evaluation was a contractual requirement between the UNICEF with the financial support of Government of Australia (AusAid). Its purpose was to assist the UNICEF and project consortium of partners to determine to what extent the project was successful in meeting its expected objectives. The evaluation also sought to inform planning, implementation and management of future UNICEF and Government of Palestine WASH in School programs embracing lessons learned and best practices. The project, which is an extension of UNICEF 'WASH in School' program, spans over three years (2012-2014) and addresses the needs of 91 schools in the West Bank and Gaza Strip out of a total of 207 schools targeted by the program. The overall goal of the intervention is to contribute to a safer and healthier learning environment in MoEHE schools in the West Bank and Gaza Strip through improving the water and sanitation conditions and personal and public hygiene practices of students and teachers (both male and female).

1.2 Evaluation objectives and intended audience

According to the Terms of Reference, the objective of the external mid-term evaluation commissioned by UNICEF to Alpha International is to:

- ~ Appraise progress towards planned results
- ~ Develop a better understanding of the process of change
- ~ Draw any lessons that may help improve the implementation of the project

The mid-term evaluation will inform the completion of the UNICEF/AusAid agreement and provide an opportunity for adjustment as required.

1.3 Evaluation methodology

The evaluation criteria designed by Alpha are based on the project's logical framework indicators and the OECD-DAC (Relevance, Effectiveness, Efficiency, Impact, and Sustainability) and UNICEF's Bottleneck evaluation criteria.

The evaluation employs a control experimental design in order to deepen the analysis via a comparison process, and more specifically measure the impact of the hygiene promotion activities conducted under the current project (as opposed to those conducted in non-beneficiary schools).

Both quantitative and qualitative approaches targeting the various project stakeholders (students, teachers/school health coordinators, schools principals, contractors, UNICEF and MoEHE staff) were used to ensure the representativeness and in-depth precision of

the data. The questionnaires included different questions about the type of the project implemented at the school within the water and environmental sanitation projects implemented in public schools in partnership with UNICEF, Hygiene ,health and environment activities, participating in celebrating the global hand washing day, the priority and importance of the project implemented, prevention and safety measures during the implementation of the project; importance and assessment for the project in addition to many other detailed questions. Those included:

Quantitative Research:

- ~ Survey of 331 beneficiary students (and comparison with 150 students from control schools)
- ~ Survey of 220 teachers/school health committee coordinators from beneficiary schools ((and comparison with 98 from control schools) with a total of 318 teacher (170 form WB and 148 from Gaza).
- ~ Survey of 22 School principals of beneficiary schools (and comparison with 10 from control schools)
- ~ Survey of 41 students having received personal hygiene kits
- ~ Direct observations in both beneficiary and control group schools of the general state of WASH infrastructure, patterns of utilization and students' behaviors

Qualitative Research:

- Focus group discussions with project beneficiaries (teachers/health coordinators and students) selected from 8 schools. Two FGDs with students [(1 for WB (10 students selected from 5 schools) & 1 for G (9 students selected from 4 schools)]. In addition, 2 FGDs with teachers and health coordinators [(1 for WB (10 teachers selected from 5 schools) & 1 for G (9 teachers selected from 4schools)].
- Focus group discussions withcontractors [2 FGDs with contractors (1 for WB (4 contractors) & 1 for G (3 contractors)].
- In-depth interviews with key informants (UNICEF staff, MoEHestaff at the central and directorate levels).There were 11 in-depth interviews with MoEHE staff (5 in WB and 6 in G).

The data collection started on 12 February 2014 and was concluded on 13 March 2014.

1.4 Most important findings and conclusions

1.4.1 Relevance

The evaluator observed that the project is highly relevant and is considered a priority by all the various beneficiaries (students and school staff) and stakeholders (MoEHE, UNICEF). It addresses urgent and vital needs of the targeted groups such as the safe access to drinking water and sanitation infrastructure facilities, and is in line with

MoEHE's goals such as rehabilitation/construction of WASH facilities' and 'provision of safe drinking water through water tankering', as illustrated by a rather high level of satisfaction on behalf of beneficiaries., priorities and approach. For example, 96.4% of the interviewed students (93.4% in the WB and 100.0% in GS) and 95.8% of the interviewed teachers (95.8% in the WB and 96.0% in GS) considered the project implemented in their schools was a priority.

1.4.2 Effectiveness

The project attains its objectives related to the components 'rehabilitation/construction of WASH facilities' and 'provision of safe drinking water through water tankering', as illustrated by a rather high level of satisfaction on behalf of beneficiaries.

The appraisal is also overall positive as far as the 'hygiene promotion training campaigns' component is concerned. In particular, although a variety of hygiene education activities occur on a regular basis in both beneficiary and non-beneficiary schools, the comparison between the two groups showed that a wider range of topics are addressed in the former. This is particularly true about subjects related to hand washing and toilets use. Besides, the feedback on the activities organized on the occasion of the Global Hand Washing Day by those who participated in the event was positive, as was the assessment of the hygiene kit provided to some of the students. A further positive achievement is UNICEF hygiene promotion manual for grades 1 to 4, finalized in November 2013, which was described as comprehensive, detailed and useful which was distributed to a limited extent during the year 2013 and is being distributed through the year 2014. As for the ToT trainings of two MoEHE employees, they were deemed beneficial in that the two trainees used their newly acquired skills when interacting with teachers and schools health committee members.

Through this grant and in close collaboration and coordination with the Ministry of Education and Higher Education (MoEHE) and NGO partners, UNICEF supported the rehabilitation and construction of WASH facilities in a total of 92 schools (29 in WB and 63 in GS). Out of the 92 schools, works have been completed in 68 schools (29 schools in the West Bank and 39 in Gaza) which was the target caseload of schools planned for 2012) thereby providing improved access to drinking water, toilet and hand washing facilities to over 50,000 students (23,540 girls). Rehabilitation/construction of WASH facilities initiated in 2013 in an additional 24 schools in Gaza is ongoing and expected to benefit over 22,000 students at completion in April 2014.

The grant was also utilized to provide water tankering to schools in marginalized areas. This benefitted in 2012 around 10,000 students (50% girls) in 25 schools in WB; and in 2013 around 56,000 students (50% girls) in 81 schools in GS. Some 31,000 students (50% girls) received hygiene awareness messages through their participation in celebrations of the Global Hand Washing Day. It is worth mentioning that the planned activities for the provision of safe drinking water through water tankering were 90 schools in

Gaza schools due to poor water quality supplied through the network system, and 25 in vulnerable schools in West Bank that are not connected to the water networks in 2012 and the same was planned for 2013.

1.4.3 Efficiency

The overall mid-term evaluation findings and analysis demonstrate UNICEF's and their partners professionalism, proactive pre-planning and their dynamic approach in improving WASH facilities in prioritized schools in the West Bank and Gaza Strip. Had there been any issues with UNICEF management, or its systems and operational procedures, the results of this mid-term evaluation would not have been as impressive. As the findings and the analysis in this report illustrate, UNICEF is a professional development agency that is setting standards in comparison with others. Its long-term presence in the West Bank and Gaza Strip, local knowledge, the trust and confidence it has built, and truly professional staff has all been highlighted and acknowledged during the evaluation.

Throughout project implementation, UNICEF provided regular technical guidance and regularly monitored progress ensuring timely risk management and appropriate mitigation measures. A number of delays were encountered including delays in 2012 in tendering in Gaza related to the Union; the 2012 November hostilities on Gaza; and regular strikes at the PA ministries and schools in 2012 and 2013 and non-availability of construction material in Gaza.

Nonetheless, some informants indicated a number of shortcomings and bottlenecks in the implementation of the project and organizational performance of the implementing actors. These included the unreliability of the school database provided by MoEHE, which impacted negatively on the pre needs assessment; the delay between the contract awarding and the beginning of the works, with consequences on the accuracy of the initial needs assessment and the cost of building materials ; the insufficient involvement of the communities and project beneficiaries in the needs assessment and hygiene promotion activities; the inappropriateness of the timing (during school hours) and duration of construction/rehabilitation works, which disturbed schooling; the unsatisfactory performance of some contractors and the lack of follow-up on their works; the poor quality of building material with bad consequences on the final outputs; and the difficult coordination between the various parties (contractors, UNICEF, MoEHE, and the schools). Notwithstanding the above challenges, key findings of the evaluation in respect of each evaluation objective showed that project achievement of expected results was overall satisfactory. From the field monitoring reports (UNICEF, MoEHE, and Consulting NGO), progress reports UNICEF receive from contractors that are submitted with the every invoice and the reports from PAH site engineers, it can be stated that the WASH in schools strategy of UNICEF and its specific performance on the project is efficient. In addition, UNICEF introduced various cost effective approaches such as clustering/grouping of activities. There is reported effective use of UNICEF-donated

water tankers with the project able to charge all the market price for schools which is an urgent humanitarian issue.

Savings were realized related to the rehabilitation and construction of WASH facilities. This resulted in more rehabilitation of existing WASH facilities. Also a close monitoring of bid was possible. For example in Gaza and North Gaza some activities underwent a re-bid because of excessive costs being submitted. This sent a strong message which likely kept subsequent bidding costs more realistic. The savings were utilized in 2013 for construction/rehabilitation of WASH facilities in an additional 24 schools in GS that are expected for completion in April 2014.

1.4.4 Impact

In general, it appears that the water tankering and WASH facilities construction/rehabilitation improved the access of schools students to safe drinking water and adequate sanitation and hygiene; with high percentage of beneficiaries stating that the project met the students' needs and that they were now using more frequently the new/renovated facilities. For example, the implementation of the project resulted in an increase of 21.6% of the overall students in using the toilets, as 78.3% of students stating that they now use the toilets (more boys than girls though: 87.7% of boys and 67.4% of girls).

The impact on hygiene behavior and practices is detectable. The evaluation highlighted some positive behavioral changes; and there was consensus among teachers, school health officers and other key informants that the behavior change needs long time and needs efforts to inculcate good hygienic behaviors in students, including respect for the good state and cleanliness of new/rehabilitated WASH facilities.

According to the reports of the health divisions in the Education Directorates, there was a clear positive impact of hygiene awareness on the students' parents and community; as municipalities and parents contributed in providing water for schools through tankering, especially when they feel there is lack of water, with the people's assert and support.

Some negative unintended impact for contractor action was also identified, mainly the disruptions caused by the construction/rehabilitation works when those took place during school time (e.g. noise, no removal of debris, inaccessibility of old toilets and absence of alternative, safety hazards).

1.4.5 Sustainability

To ensure sustainability of the upgraded WASH facilities in the targeted schools, UNICEF held a number of meetings with MoEHE directors of School Health; the Building

Construction; as well as with engineers from MoEHE directorates where the construction is being carried out at targeted schools – to agree defined operation and maintenance plans. The MoEHE has sensitized school health committees in all schools and is currently establishing Environmental Health Clubs to ensure increased community participation. This is in line with the recommendations in the 2011 KAP survey supported by UNICEF.

Cleaning materials were distributed to 132 schools (72 in WS and 60 in GS) in 2012 and 30 schools in WB in 2013 as part of the hygiene promotion, and especially in order to cover the gap in schools budgets for hygiene tools and cleaning supplies. This included soap for washing hands; and chlorine and bleach for cleaning the WASH facilities.

A technical feasibility study and detailed design has been undertaken by a consultancy firm for the piloting of solar distillation technology use in WB and GS schools. The study investigated several solar distillation technology designs options and a preferred option was selected based on the 13 simplicity in construction and maintenance, cost and efficiency in producing clean water. Detailed designs were undertaken for one school in WB and two schools in GS. School selection for this study was based on access to safe drinking water, student population and the availability of space on school roof tops. A financial and technical analysis of the potential number of schools the pilot project is to be implemented in. Expressions of Interests (EOI) will be sought for the construction of the pilot project in January 2014.

In addition to conducting field visits to the targeted schools one year after the completion of the project and having the contractors undergo the necessary maintenance works (as per the agreed-on one-year maintenance warranty), UNICEF is currently discussing with MoEHE on the development of maintenance and sustainability plans and policies at the ministry and schools level. However there has been little progress so far on account of the scarcity of financial resources which can be allocated to the matter by the ministry of Finance.

The community participation in water program of school sensitized parents and local community bodies to participate in school facilities protection, maintenance and support school to have better hygiene situation.

1.5 Main recommendations

The findings lead to important recommendations concerning water, sanitation and hygiene in Palestinian schools. As the WASH project consists of both a “hard component” like building infrastructure and procuring supplies and a “soft component” covering teaching good habits, behavioural change and advocacy. The Mid-Term Evaluation recommendations are therefore catalogued accordingly.

1.5.1 WASH in school: infrastructure & supplies

a. Toilets and other sanitation facilities construction

- Increase the number of new built and rehabilitate existing toilets, hand washing sinks and water fountains, giving priority to Gaza;
- Revise the Palestinian standards and benefit from the International ones regarding toilets and other sanitation facilities.
- The MoEHE should plan from today for the extension of the project to target additional prioritized schools that are not targeted by the current project.

b. Water tankering

- Maintain water tankering for needy schools
- Encourage schools particularly remote ones in West Bank to build rainwater harvesting cisterns for schools

c. WASH supplies provision

- Analyze enabling factors such as budget/expenditure and management/coordination, allowing for sustainable provision of toilet paper and soap in schools.

d. infrastructure works and contractors

- Conduct works after school hours or during holidays;
- Provide alternative sanitation units during works;
- Improve follow-up of contractors' work.
- Safety precautions and procedures should be taken by contractors seriously into consideration.

e. Pre-contracting and contracting processes

- Meet the contractors at the pre-contacting stage and explain to them all the contracting conditions and procedures.
- The prequalification process should be renewed and new list of prequalified contractors for both West Bank and Gaza should be prepared; all contractors should be technically evaluated based on their technical documents provided to UNICEF. Only prequalified contractors should be invited to submit their priced BoQs (sealed) for construction and rehabilitation works for water and sanitation facilities in schools in West and Gaza areas. This will reduce the tendering time.
- Use higher quality building materials, and supported by quality testing certificate
- Reinforce contractors' accountability and follow-up through the frequent periodical visits of the MoEHE engineers. In certain cases, engineers employed at local councils could be benefited from after the arrangement of key persons of local councils.

f. Sustainability of project activities

- Empowering all project stakeholders with the appropriate project information, objectives and ideas creates the necessary demand and commitment, making implementation of hardware activities easy. Given clear guidelines, local government and civil society organizations can effectively coordinate local development processes. They can be linked with school principle to enhance the maintenance of water and sanitation facilities at schools.
- On the community contribution front, more participatory approaches should be applied; in-kind contribution from beneficiaries and LGUs should be encouraged. Therefore, it is recommended to UNICEF to revisit the amount of community contribution in both Gaza Strip and the West Bank and also include the participation of beneficiaries in needs assessment.

1.5.2 WASH in school: promotional activities

- Assist schools in developing efficient WASH maintenance plan,
- Involve further the students, families and local communities in awareness-raising activities,
- Strengthen teachers' and field health workers participation in activities that promote correct hygiene practices and provide adequate training programmes on WASH issues, particularly on health and environmental health;
- Expand and activate clubs and committees and provide more significant role and opportunities for students to be engaged in promoting/monitoring school cleanliness (through environmental clubs and school health committees);
- Collect feedback from parents to assess the impact of hygiene promotion activities on children,
- Enhance and encourage innovative, proactive and child-friendly educational approaches in the teaching of hygiene and sanitation topics. Monitor the impact of these teaching methods;
- Include cleaners in health and hygiene trainings in schools.
- loudspeaker announcements,
- weekly inspections of students' personal hygiene,
- publication of information material,
- Strengthen coordination and cooperation with the municipality, Health centres, and other stakeholders within the community;
- lectures by external speakers including nurses and medical staff,
- use of social media such as Facebook,
- discussions with mothers

- Direct more attention towards hygienic activities through sports and art lessons, school competitions, open days and by engaging more students or classes in the morning assembly on a daily bases.

2.0 Background Information

2.1. Project background

Access to safe drinking water is a daily challenge across SoP largely due to the geo-political situation. In the West Bank, water availability continues to be a major problem. Connectivity to the water network is around 84 per cent, but the availability of water ranges from 175 liters per capita per day (lpcd) in some areas to as low as 10-15 lpcd in others. In Gaza, although water network coverage is around 97 per cent nevertheless water losses are estimated at over 45 per cent. About 90 per cent of the Gaza aquifer does not meet WHO guidelines, exposing 1.5 million inhabitants in Gaza to unacceptable health risks. Consequently, nearly 83 per cent of the population of Gaza is forced to purchase expensive drinking water of uncertain quality from private vendors. The cost per cubic meter of water (in the range of 15-30 NIS) is beyond the affordability of most vulnerable communities. Around 45 per cent of households are connected to the public sewerage network (30 per cent in the West Bank compared to 75 per cent in Gaza Strip); and around 53 per cent of Palestinian households use cesspits for the disposal of waste water (69 per cent in the West Bank and 25 per cent in the Gaza Strip).

Many schools in the West Bank (particularly Area C) and Gaza suffer from drinking water shortages. Schools that are not connected to a water network rely on tankers and cisterns for their water supply, making storage capacity a critical issue for most of the schools. In addition, inadequacies in water and sanitation facilities in schools have led to a deteriorating level of hygienic practices among school children in a large number of government schools. Lack of adequate and separate toilets for boys and girls (especially in mixed schools) is one of the main concerns in the education sector affecting access to learning. As schools are a major determinant of children's health and well-being, water and sanitation facilities in the schools are essential in promoting good hygiene behaviour and general health, as well as improving school attendance and performance. Although all children are affected, girls suffer a stronger negative impact from the lack of sanitation and hygiene facilities in schools, urging the need for safe, clean, separate and private sanitation facilities in their schools.

According to a survey conducted by the Palestinian Ministry of Education and Higher Education (MoEHE) on school infrastructure and facilities, over 50 per cent of government schools lack the minimum acceptable water and sanitation facilities. The availability of minimum safe water supply per person and the adequate storage facilities are also lacking. A minimum of 7 liters per pupil per day of safe water is needed for health and hygiene purposes.¹ The MoEHE and local NGOs working to address this

¹ WHO Regional Office for South-East Asia, Minimum water quantity needed for domestic uses.

Retrieved from: http://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WHO/WHO5%20-%20Minimum%20water%20quantity%20needed%20for%20domestic%20use.pdf on June 9th, 2014.

problem report that most school toilet facilities lack the basic hygiene provisions and cleanliness, exacerbated by the very high number of users per unit. This is equally true with respect to the number and conditions of drinking water fountains. The MoEHE standards for school health require a minimum of one toilet for every 30 pupils; and a water tap or point for every 25 pupils. It is worth mentioning that the MoEHE standards for school health should be revised and updated. International standards should be made as a reference for that. Hygiene behaviour is difficult to address in the absence of adequate water and sanitation facilities in the schools.

Similar results have been reported by PCBS in their survey of 2008, whereby around 600 schools (more than 27 per cent of the government schools in West Bank and 30 per cent in Gaza) do not meet the Palestinian standards in terms of the WASH facilities in the schools. Accordingly, in 2010 MoEHE prioritized 264 schools that need urgent intervention.

Since 2009, UNICEF in SoP has embarked on improving WASH facilities in schools in both Gaza Strip (GS) and the West Bank (WB) in close collaboration with the Ministry of Education and Higher Education (MoEHE). The project targets a total of 207 schools (88 schools in West Bank and 119 schools in Gaza) out of a total of 246 schools that have been prioritized by MoEHE for urgent intervention.

In 2009, with the partial financial support of AusAid, UNICEF successfully constructed and/or rehabilitated WASH facilities in 52 Palestinian Authority (PA) schools. In 2010, fully funded by AusAid, UNICEF supported the construction/rehabilitation of WASH facilities in a total of 59 schools (25 schools in south West Bank and 34 schools in Gaza Strip). During 2011, again with full AusAid support, the project constructed/rehabilitated 39 schools (18 in WB and 21 in GS), and in 2012 68 schools were completed.

Under the current program agreement, which spans three years (January 2012 - December 2014)²; UNICEF is targeting another 91 schools in the WB and Gaza.

The activities are:

a. Rehabilitation/construction of WASH facilities in targeted schools

Construction works include (i) rehabilitation of existing facilities in cases where the poor condition of facilities could be improved through repairs; and (ii) construction of new facilities in the case that existing facilities are not acceptable by MoEHE standards and cannot be repaired.

² UNICEF occupied Palestinian territory Proposal submitted to AusAid, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip (2013-2014)', December 2012

b. Hygiene promotion training campaigns in the schools under rehabilitation through Field Health Coordinators/MoEHE, PAH and UNICEF

These include:

- ~ Hygiene trainings for students and teachers;
- ~ Sensitization of environment Health Clubs at the schools;
- ~ Distribution of hygiene kits such as soap and cleaning liquid to the most needy schools;
- ~ Monitoring of the maintenance and use of the newly constructed WASH facilities, and assess level of hygiene practices in each of the schools.
- ~ Community awareness on hand-washing and other related topics
- ~ Celebration of Global Hand Washing Day
- ~ Pre- and post- KAP study to inform the change in behavior and practices of students and teachers in the targeted schools³
- ~ Increase water issues awareness in schools targeted by water tankering

c. Provision of safe drinking water through water tankering (in 90 Gaza schools due to poor water quality supplied through the network system, and in 25 vulnerable schools in the West Bank that are not connected to the water networks).

Water delivery for drinking purposes is conducted on a daily basis and according to a weekly schedule to cover all the targeted schools. The expected amount of water is 0.7 – 1 liter per student in Gaza and 5 liters in West Bank for the entire scholastic year excluding the school breaks. Repairs of water taps of the water tanks in the schools are included in this activity.

d. Support MoEHE operation and maintenance to ensure sustainability

Rehabilitated and upgraded WASH facilities are complemented with defined operation and maintenance plans through MOEHE to ensure they are kept clean and operable; and that adequate soap and hygiene supplies are available.

In addition, other sustainability mechanisms are sought; including the piloting of a feasibility study for solar distillation technology use in SoP schools (1 school in WS and 2 schools in GS).

2.2 Target groups and geographical coverage

UNICEF addresses the WASH needs of a total of 207 schools (89 schools in West Bank and 118 schools in Gaza) selected jointly with MoEHE based on a prioritized list of 246 schools.

³ Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip (2013-2014), Proposal submitted to Aus/AID, December 2012, UNICEF occupied Palestinian territory.

Based on 2011 enrolment figures, the average number of students per school is 350 students and 950 in West Bank and Gaza Strip respectively. As such, the estimated number of direct beneficiaries is 143,250 students (81,250 boys and 62,000 girls).

The targeted schools in the period 2012-2014 are:

<i>Year</i>	<i>WB</i>	<i>Gaza</i>	<i>Total</i>
2012	29	39	68
2013	30	39	69
2014	30	40	70
Total	89	118	207

The selection of high priority schools requiring rehabilitation/construction of WASH facilities was done by the MoEHE at the district level Directorate offices in coordination with the School Health and School Building Services sections based on criteria including:

- ~ Lack of toilets (students use toilets at nearby schools)
- ~ Number of toilets below national standards of student to toilet ratio of 30:1
- ~ Lack of separate toilets for boys and girls; and male and female teachers
- ~ Dilapidated toilets that are non-functioning or poorly functioning
- ~ Safety concerns where there is a risk of toilet collapsing as a result of large water tank on the top of the toilet block or toilets built over cesspits
- ~ School expansions to include additional grade levels
- ~ Schools changed from boys to girls or mixed
- ~ Schools with disabled children

While boys' schools are generally worse off in terms of WASH facilities, the selection of targeted schools by MoEHE took into consideration the need to include as many girls and co-education schools as possible to address the issue of girl drop-out rates in secondary school due to lack of separate sanitation facilities for girls.

2.3 Implementation timeline

The duration of the project is three years (January 2012 - December 2014)⁴. The timelines took into consideration the school calendar; UNICEF internal processes for tendering and contract evaluations; and time duration of infrastructure works.

Each of the three years follows almost the same timeline: school selection (including preparation of Bills of Quantities and drawings) was planned to take place in the first quarter; on-site construction and rehabilitation was planned to be focused during school holidays mainly (May-July) of each year to minimize disruption of schooling;

⁴ UNICEF occupied Palestinian territory Proposal submitted to Aus/AID, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip (2013-2014)', December 2012

hygiene awareness was planned to be conducted throughout the year with the Global Hand Washing Day campaigns between October and December of each year.

2.4 Management arrangements and implementation partnerships

The MoEHE is the primary PA ministry responsible, in cooperation with UNICEF, for the implementation of this intervention, both at the central and district levels (through MoEHE Directorate offices). MoEHE's roles and responsibilities at the central level (Department of School Building Services and Department of School Health Coordination) include the selection of priority schools for rehabilitation and construction, the preparation of brief project document on hygiene promotion activities, and the training of MoEHE field Health Coordinators and Health officers at the Directorates on hygiene promotion. At the directorate level, MoEHE role includes maintenance of records for school requirements for rehabilitation, review (in the West Bank) or prepare (GAZA) the bill of quantities (BoQ) and drawings, monitoring of the construction carried out by contractors selected by UNICEF, resolution of disputes with the communities when required, training of School Health Committees on hygiene promotion, and monitoring of school health activities.

In addition, UNICEF subcontracted a consulting NGO (PAH) with relevant experience to support MoEHE's Engineering Department in the West Bank (MoEHE in Gaza has a strong engineering unit and is able to provide in previous years quality and timely designs) and in dealing with subcontractors responsible for the rehabilitation and construction works.

2.5 Financial arrangements

The total programmable⁵ amount received was (USD \$ 3,590,108). The total committed programmable amount over 2012 and 2013 was (USD \$ 3,525,543) with unutilized balance of (\$ 64,565).⁶

2.6 Project objectives and results

2.6.1 General Objective

The overall goal of the proposed intervention is to contribute to a safer and healthier learning environment in MoEHE schools in West Bank and Gaza Strip through improving the water and sanitation conditions and personal and public hygiene practices of students and teachers (both male and female).

⁵ Programmable amounts (committed and received) exclude HQ recovery costs.

⁶ Second Progress Report, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip, January 2012 – December 2013', UNICEF occupied Palestinian territory, January 2014

Specific Objectives/Results

The specific **objectives** of the project are:

1. To improve access to safe drinking water and adequate sanitation in 207 MoEHE prioritized schools.
2. To maintain effective governance in targeted schools to ensure sustainability of water and sanitation systems.
3. To promote and improve hygiene and hand washing practices among students in the targeted schools.
4. To support improved enrolment and attendance rates in targeted schools, especially amongst girls.

The following are the expected results:

Result 1: Improved access of girls and boys in targeted schools to safe drinking water and adequate sanitation and hygiene

- ~ Around 94,250 students (around 50% girls) each year in West Bank and Gaza will have improved access to safe drinking through water tankers (each student receiving nearly 1 liter of drinking water daily) through water tankering to 90 schools in Gaza and 25 schools in the West Bank.
- ~ A total of 143,250 children (around 50 per cent girls) will have improved access to safe drinking water and adequate sanitation through rehabilitation of WASH facilities in a total of 207 schools (89 schools in West Bank and 118 schools in Gaza).

Result 2: Improved operation and maintenance mechanisms in targeted schools to ensure sustainable WASH facilities

- ~ A total of 207 prioritized schools (with upgraded or new WASH infrastructure) will have regular maintenance practices (clean and operable facilities) and adequate soap and hygiene supplies through MoEHE.
- ~ Results of a feasibility study will inform piloting solar distillation technology use in SoP schools

Result 3: Improved hygiene practices in targeted schools among girls and boys and teachers (male and female) in targeted schools

- ~ Around 143,250 students (at least 50 per cent girls) and 3,000 teachers (at least 50 per cent female) will maintain better hygiene practices through training and awareness raising campaigns on water conservation, hygiene and water safety; and distribution of school hygiene kits.

- ~ At least 60,000 students (at least 50 per cent girls) and 1,000 community members (at least 50 per cent female) per year receive hygiene promotion messages and participate in the Global Hand washing Day campaigns.

Result 4: Enrolment and attendance rates are improved at schools where inadequate WASH facilities have been identified as a negative factor on attendance (particularly for girls)

- ~ Enrollment and attendance data were tried to be documented at the outset of project implementation. Post-project data has been assessed in the context of any other influencing variables to surmise attribution of this project to improved enrolment and attendance.

See logical framework in annex.

2.7 The mid-term evaluation

UNICEF commissioned Alpha International to conduct an external mid-term evaluation of the current 'WASH in School' intervention, as the project is still being rolled out.

2.7.1 Objectives of the Evaluation

More specifically, the main objectives of the evaluation were:

- ~ Appraise progress towards planned results,
- ~ Develop a better understanding of the process of change,
- ~ Draw any lessons that may help improve the implementation of the project

The mid-term evaluation will inform the completion of the UNICEF/AusAid agreement and provide an opportunity for adjustment as required.

3. Methodology

3.1 The approach

As general Guidelines, the assignment was guided by the OECD DAC criteria as well as the UNICEF's bottleneck analysis.

In accordance with the ToR, the consultant carried out the assignment taking into account the following aspects:

- Integrated Approach to Project/Programme Cycle Management which is based on the logical framework method.
- A participatory approach, involving the management team, the beneficiaries and all stakeholders concerned.
- The degree of compliance with the indicators listed in the Logical Framework Matrix of the contribution agreement as a guideline for measuring the performance.
- The beneficiaries' perceptions of benefits received and the managers' perspective of outputs delivered and/or results achieved. Much time was dedicated to observations and discussions in the project areas as opposed to the national level.

3.2. Data Collection

3.2.1 Techniques

The techniques for information collection included:

- document reviews and analysis,
- assessment of logical framework and indicators,
- face-to-face interviews with beneficiaries/stakeholders,
- field observations and focused group discussions (during the field visits in the WB and GS).

At the outset of the assignment, Alpha team held preparatory meetings with UNICEF and MoEHE (on 16th November and 2nd December 2013 respectively) to gather more detailed information on the project implementation status, and discuss the evaluation methodology.

Comments and suggestions from UNICEF and MoEHE were incorporated into the final methodology.

3.2.2 Document review

The evaluation team proceeded to the review of the Project documents provided by UNICEF in order to assess the implementation status and devise the survey tools, including:

- ~ 'Country Program Action Plans for Palestinian Children and Women in the SoP2011-2013 with extension to 2014, between the PA and UNICEF', December 2010
- ~ UNICEF occupied Palestinian territory Proposal submitted to Aus/AID, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip (2013-2014)', December 2012
- ~ Project's logical framework
- ~ Request for Proposal, Mid-Term Evaluation of 'WASH in School' Program, 1 October 2013
- ~ 'School Water Sanitation and Hygiene Knowledge, Attitudes and Practices Survey, occupied Palestinian territory', UNICEF, in the occupied Palestinian territory, 2011
- ~ Water, Sanitation and Hygiene (WASH) 2006 – 2010 Program Evaluation, UNICEF occupied Palestinian territory, October 2012
- ~ First Progress Report, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip, January - December 2012', UNICEF occupied Palestinian territory, January 2013
- ~ Second Progress Report, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip, January 2012 – December 2013', UNICEF occupied Palestinian territory, January 2014
- ~ UNICEF Manual on personal and public hygiene promotion in Palestinian primary schools, finalized in November 2013
- ~ Feasibility Study on Use of Solar Distillation at Schools, Center for Engineering and Planning (CEP), Gaza, Submitted to UNICEF on 17 September 2013.
- ~ UNICEF Evaluation Policies and Guidelines

3.2.3 Data collection tools

Based on the preparatory discussions with the UNICEF project team and MoEHEs as well as the document review, and using the project's logical framework indicators and the OECD-DAC criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability) as the basis for designing the evaluation criteria, Alpha developed various data collection instruments targeting the various project stakeholders (students, teachers/school

health coordinators, schools principals, contractors, UNICEF and MoEHE staff). In addition, it was decided that the sample should include a control group selected from schools not targeted by the project in order to deepen the analysis via a comparison process. Both quantitative and qualitative instruments were employed so as to ensure the representativeness and in-depth precision of the data.

The following data collection activities were conducted:

a. Quantitative Research activities:

- Survey of 331 beneficiary students (and comparison with 150 students from control schools) to collect data about the water, sanitation and hygiene situation in the schools before and after the intervention, assess the students' exposure to hygiene, health and environment awareness-raising activities and subsequent application, relevance given to UNICEF intervention in terms of priority and importance, opinion about its implementation (e.g. in terms of safety measures, disturbance), satisfaction with the outcome of the water and sanitation construction/rehabilitation activities.
- Survey of 220 Teachers/School Health Committee Coordinators from beneficiary schools (and comparison with 98 from control schools) to collect data about the water, sanitation and hygiene situation in the schools before and after the intervention, assess hygiene, health and environment awareness-raising activities conducted, relevance given to UNICEF intervention in terms of priority and importance, opinion about its implementation (e.g. in terms of safety measures, disturbance, time and duration), satisfaction with the outcome of the water and sanitation construction/rehabilitation activities.
- Survey of 22 School Principals of beneficiary schools (and comparison with 10 from control schools) to collect data about the water, sanitation and hygiene situation in the schools before and after the intervention, including number of school cleaners, presence of a health or environmental committee, budget for WASH activities and maintenance, water provision etc.), satisfaction with the level of coordination between the intervention different implementing partners; opinion about its implementation (e.g. in terms of safety measures, disturbance, time and duration), satisfaction with the outcome of the water and sanitation construction/rehabilitation activities.
- Survey of 41 students having received personal hygiene kits, including usage of the kit by students and their family, quality of its content, etc.

The data was collected by conducting face-to-face interviews following structured questionnaires (adapted to each target, with a different version for the control group). This ensured a high response rate and understanding of the questions.

- Field observation: Direct observations of both beneficiary and control group schools were conducted using UNICEF WASH Projects Observation checklist. The objective was to gather primary data on the general state of WASH infrastructure, and assess patterns of utilization and maintenance as well as students' behaviors. Direct observation allowed the evaluator to validate the information collected through the other tools.

b. Qualitative Research activities:

To complement and validate the information collected through quantitative data collection techniques, the evaluator conducted the following qualitative research activities:

- Focus group discussions with project beneficiaries (Teachers/Health Coordinators and Students) and Contractors

Alpha conducted six focus group discussions: two with students [1 for WB (10 students selected from 5 schools) (6 boys and 4 girls)& 1 for G (9 students selected from 4 schools)](4 boys and 5 girls), two with teachers and health coordinators [1 for WB (10 teachers selected from 5 schools) & 1 for G (9 teachers selected from 4 schools)], and two with contractors [1 for WB (4 contractors) & 1 for G (3 contractors)].

The objective was to collect more precise information about the water, sanitation and hygiene situation in the schools before and after the intervention, opinion about the construction/rehabilitation and awareness-raising activities implemented through the project, the relevance of the intervention and the satisfaction in terms of needs covered, the opinion about its implementation (e.g. in terms of safety measures, disturbance), satisfaction with the outcome of the activities, issues of sustainability and community participation, cooperation between the different stakeholders, etc.

- Interviews with key personnel

Alpha conducted a total of 13 in-depth interviews: three with UNICEF staff, four with MoEHE high level staff in GS and WB, and six with staff from the School Health General Directorate. These interviews aimed at addressing key evaluation criteria (relevance, efficiency, effectiveness, impact and sustainability) and focused mainly on policy issues and performance assessment at project and strategy levels. They tried to determine implementation processes, successes,

shortcomings and challenges, best practices and lessons learnt, as well as issues of sustainability.

For more details about the above data collection tools, please see annex 1 to 13.

3.3 Sample design and selection of respondents

As mentioned earlier, it was decided by Alpha in coordination with UNICEF project team and MoEHE to use a control experimental design in order to deepen the analysis via a comparison process. The reason for selecting such approach was first and foremost to measure the impact of the hygiene promotion activities conducted under the current project compared to those conducted in non-beneficiary schools.

The sample size for the students and teachers/health coordinators surveys was designed in a way guaranteeing the accuracy and representativeness of results.

As sample of around 15 students and 10 teachers per school was selected from 22 beneficiary schools (experimental group). Among those 22 schools, 19 benefitted from sanitation works only (i.e. construction/rehabilitation of toilets, sinks, drinking fountains), two schools benefitted from water tankering only, and one school benefitted from both water tinkering and sanitation works.

The equation used to estimate the sample size with marginal error 5% is:

$$n = \frac{Z^2 P(1-P)}{E^2}$$

Where,

n= sample size

Z= The reliability coefficient extracted from the normal distribution using 95% confidence level.

P= The percentage of the attribute to be estimated.

E= Level of desired accuracy in the estimation.

Then ;

Z=1.96, when considering 95% confidence level

P=0.5, assuming population is most heterogeneous according to the attribute of interest

E=0.05.

By substituting these values in the above equation; the resultant sample size will be 370 students.

The sample size is reasonable enough to estimate the parameters of interest with acceptable accuracy.

In the control group (where the project is not implemented), 10 schools were selected, with around 15 students and 10 teachers targeted in each school.

An equal number of 3 to 5 students were selected randomly for each grade (from grade 4 and above). The sample consisted of 276 girls and 276 boys.

The principals of both control and experimental schools were also interviewed.

In addition, Alpha staff conducted further interviews with 41 students selected from the only four schools (three in the experimental group and one in the control group) which we found had received the hygiene kits.

Table 1: Sample distribution by gender and school type

No. of Respondents	Gender	School type		Total
		Experimental	Control	
Schools	Male	10	5	15
	Female	10	4	14
	Coeducation	2	1	3
	Total	22	10	32
Students	Male	193	83	276
	Female	169	77	246
	Total	362	160	522
Teachers	Male	114	54	168
	Female	106	44	150
	Total	220	98	318
Principals	Male	12	6	18
	Female	10	4	14
	Total	22	10	32

Table 2: Sample distribution by gender and region

No. of Respondents	Gender	Region		Total
		West Bank	Gaza Strip	
Schools	Male	8	7	15
	Female	6	8	14
	Coeducation	3	0	3
	Total	17	15	32
Students	Male	171	105	276
	Female	127	119	246
	Total	298	224	522
Teachers	Male	100	68	168
	Female	70	80	150
	Total	170	148	318
Principals	Male	11	7	18
	Female	6	8	14
	Total	17	15	32

3.4 Conducting the data collection and data processing

Before starting the field research, Alpha conducted a pre-test of the tools on a small sample of 20 students, 7 teachers and 2 principals. The objectives were to check if the questions were valid, reliable, necessary and sufficient, test their understanding by the target audiences, and identify elements that may adversely affect the validity of the evaluation (e.g. due to linguistic and/or conceptual ambiguity).

Interviewers were debriefed and the information used to clarify directions, question wording, or response categories where necessary. The drafts tools were revised accordingly and sent for approval to UNICEF and MoEHE teams. A final version of the questionnaires was then produced for the full survey. Quantitative data was collected through face to face interviews with students, teachers and principals.

Alpha also proceeded to the recruitment of the data collection team, which included two data collection managers, one in the West Bank and the other in Gaza, responsible for managing and supervising the data collection process and keeping contact with data

collectors in the field. 17 data collectors (9 in West Bank and 8 in Gaza Strip) were recruited to conduct the data collection.

Two orientation workshops, one in Ramallah and Gaza, were then organized to train the field workers. The training included a comprehensive explanation of the aims and objectives of the survey, detailed explanation of the research instruments (questionnaires) and indicators used in the questionnaires, as well as the different indicators to be measured, and the procedures to be followed. The criteria for quality and accuracy control that Alpha International abides by in all its survey studies were also presented, as were logistical, administrative and financial issues related to the field work. The importance of not jeopardizing the quality of data collection and the need for continuous communication and coordination with the Project coordinator were also discussed and emphasized.

The data collection started on 12 February 2014 and was concluded on 13 March 2014. The collected data was entered by Alpha's data entry workers using Access 2010 database and control and logical rules were applied in the database to clean the data, minimize data entry errors and ensure logical consistency among logically inter-related variables.

The data was then transferred from Access to SPSS format through a specialized software called "Stat-Transfer". Further data cleaning was then conducted by carrying out initial frequency tables through univariate and multivariate techniques and cross-validation of results through conducting various cross-tabulation in order to try and detect any data errors or outliers. Data were disaggregated by gender.

Alpha used the statistical software (SPSS) for the analysis of quantitative data. This included: frequency tables, cross-tabulations of the main variables (gender, region).

Both statistical results and reports of qualitative research tools (focus group discussions and interviews) were then analyzed and interpreted for integration into the final report.

3.5 Challenges faced by the evaluator

Alpha team faced the following difficulties when conducting the evaluation:

- ~ Exceptional weather conditions (snow storm), Palestinian teachers union strike and school exams in December 2013, which delayed the start of the data collection
- ~ Lack of a recently updated, comprehensive, summary/database of all the beneficiary schools and activities implemented so far (especially with regards to the awareness-raising activities) allowing the evaluator to get a clear understanding of the implementation status. In addition, the fact that the schools

names were written sometimes in English and others in Arabic led to some confusion as to the precise identification of the activities conducted in each school

- ~ Discrepancy between the activities mentioned in the database provided by UNICEF and the reality on the ground (e.g. the evaluator found that seven schools in Gaza did not benefit from water fountain works while the database indicated they did; works in another Gaza school were mentioned as completed whereas it appeared that the contractor had given the keys to the MoEHE but that the ministry had not handed them over to the school; the evaluator discovered that in another school the sanitation units had been removed to expand the street while this was not mentioned in the data base)
- ~ Difficulty in distinguishing between hygiene promotion activities conducted as part of the project or as part of the normal activities of the schools (difficulty also felt by some beneficiaries and stakeholders)
- ~ Difficulty in surveying and conducting interviews with very young children (fourth and fifth graders)
- ~ Difficulty related to the variety of activities conducted in the framework of the project, and to the fact that not all of them are implemented in all the targeted schools, which complicates the sample design
- ~ Changes in the population composition of some schools: all the students, teachers and principals of three schools under evaluation in the Gaza Strip were transferred therein after the project implementation and could therefore not evaluate the activities. Alpha had to replace these schools with others located in the same area and having benefitted from the same kind of activities

3.6 Recommendations for future evaluations:

- ~ Provide the evaluator with a precise, correct and up-to-date database listing all the targeted schools (using Arabic and/or English names in a consistent way and adding the schools identification national number) and indicating the activities conducted in each school, the names of participants in the activities (students, teachers and other relevant school personnel), and the dates of implementation of the activities, so as to facilitate the selection of informants
- ~ Unify schools' names between UNICEF and MoEHE since the targeted schools do not benefit from the same kind of interventions, effectuate sampling of the population of informants by activity in order to enhance the accuracy of the results
- ~ Conduct the evaluation of hygiene promotion activities immediately after they are implemented in order to minimize the negative effects of memory lapse, However, Behavioral change should be measured after some time.

3.7 Gender and human rights mainstreaming

Alpha followed a gender equality perspective and human rights based approach in conducting the evaluation, which entailed the following measures:

- ~ Designing evaluation questions targeting specifically the situation of female students and teachers (e.g. question to schools principals: “At the design stage of the WASH facilities construction project, did you take into consideration girls’ needs when determining the location and number of new toilets? In general how did the project meet the specific needs of girls? And of disabled students?”)
- ~ Training data collectors on how to deal adequately with children, and especially girls, when conducting the survey
- ~ Making sure that female students are interviewed by female enumerators
- ~ Disaggregating data by gender
- ~ Using a gender perspective when analyzing/reporting the findings and drafting conclusions and recommendations, when relevant.

4. Results and Discussions

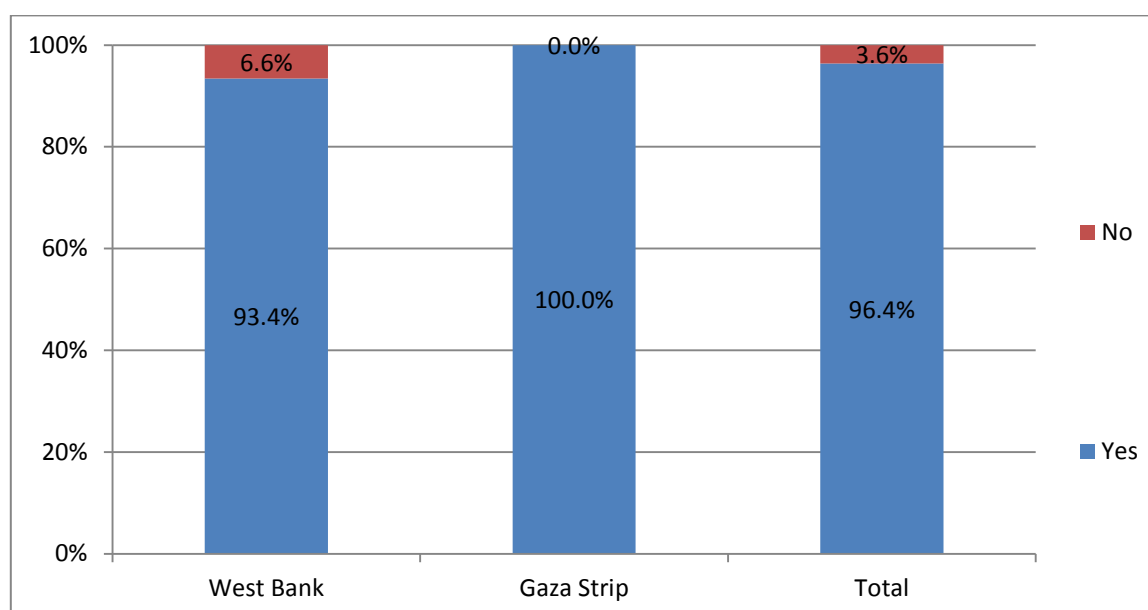
In order to abide by the United Nations Evaluation Group's (UNEG) Norms and Standards, the organization of the findings follows the OECD-DAC (Organization for Economic Cooperation and Development Assistance Committee) criteria, i.e. Relevance, Effectiveness, Efficiency, Impact, and Sustainability. In addition to the UNICEF's bottleneck analysis criteria was taken into consideration during the evaluation.

4.1 Relevance of the project

4.1.1 Priority of the project

There is a wide consensus among the various beneficiaries and stakeholders that the project was a priority for the targeted communities. The survey shows that 96.4% of the students from beneficiaries schools considered the projects implemented in their school as a priority, with 89.3% adding that it should have been implemented long ago.

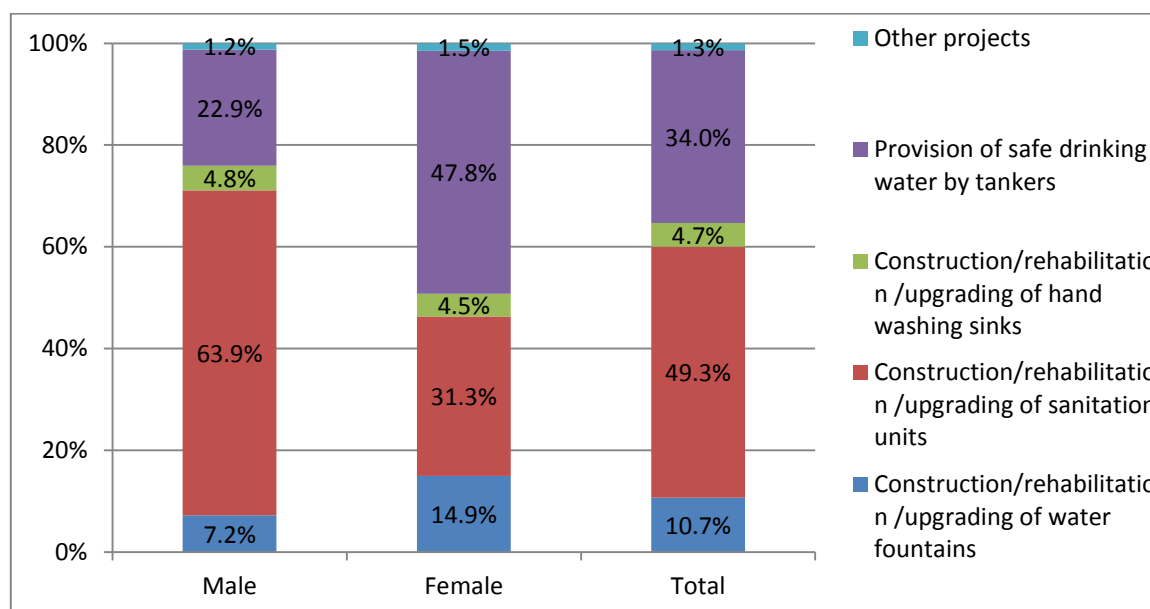
Figure 1: Distribution of beneficiary students who feel that the project is a priority



Among the 3.6% who did not think so, it was mainly because of the fact that only water tankering had been implemented in their schools (cf. 40% girls stating in that case that building new toilets was a higher priority). 20% answered that the priority would have been to expand the existing toilets and move them away from the classes – thus confirming again the importance of water and sanitation initiatives.

A further confirmation came from the control group survey. When asked about the type of projects which most needed to be implemented, 49.3% of students indicated as a first choice the construction/renovation of sanitation units (toilets), followed by the provision of safe drinking water by tankers (34%), the construction/renovation/maintenance of water fountains (10.7%), and last the construction/renovation/maintenance of hand washing sinks (4.7%). Girls' concerns with safe drinking water appeared to be twice than that of boys, with 47.8% of the former opting for the provision of safe drinking water by tankers as a first priority project (as opposed to 22.9% of males). On the other hand, the first choice for boys (63.9%) was the construction/rehabilitation/upgrading of sanitation units (while it was mentioned by half that number of girls - 31.3%).

Figure 2: Distribution of non-beneficiary students by their view on the most needed projects that should be implemented in the schools



Teachers and health committee's coordinators also agreed with the priority nature of the project, with 95.9% declaring that it was a priority and that none other was more important, and 99.5% adding that there was an urgent need for it. Similar data was received from the school principals (with 90% saying that the project was a priority for the school).

The importance of the project was also demonstrated by the focus group discussions with students and teachers both in the West Bank (WB) and Gaza Strip (GS).

4.1.2 Project's consistency with the needs of the target groups

The relevance of the project derives from its adherence to beneficiaries' needs. All respondents, be they project's beneficiaries before the implementation or students and

staff of the control schools (i.e. not having benefitted from the project), declared suffering from various WASH problems, mainly related to the state of disrepair and lack of cleanliness of infrastructure (either toilets, sinks or water fountains), their insufficient quantity, inadequate size, inadequate location, and the absence or lack of clean and safe drinking water. As a result, it was common for both schools personnel and students to avoid using the restrooms or drinking water at all.

As a result, there was a high consensus among all the various project beneficiaries that the project is highly relevant and is considered a priority by them. For example, 96.4% of the interviewed students (93.4% in the WB and 100.0% in GS) and 95.8% of the interviewed teachers (95.8% in the WB and 96.0% in GS) considered the project/s implemented in their schools was/were a priority.

4.1.3 Project's consistency with MoEHE' goals

Interviews with MoEHE staff confirmed that the project meets the ministry goals in the field of water and environmental sanitation and is in line with the ministry's plan for sustainable water and sanitation because sustainability criteria were taken into consideration during the project design and implementation, including the number of water fountains and toilets, the height of water fountains, the awareness workshops, and the provision of cleaning and hygiene supplies.

In-depth interviews with ministry staff showed that the project was one of their most important priorities because safe drinking water and improved and healthy sanitation facilities and school environment play an important part in students' health and impact on their educational achievements. They noted that the targeted schools suffered from serious bad condition when it comes to water and sanitation and this project, unlike any other, included both constructional and educational components, which is definitely among the ministry's priorities.

In general, MoEHE staff indicated that this project contributed to achieving the ministry's goal to improve students' health by providing healthy and safe school environment. Last, the project falls within the global Child-Friendly School (CFS)⁷ approach adopted by the MoEHE by contributing to a healthier and more hygienic learning environment.

⁷The global Child-Friendly School (CFS) approach is an intersectoral and holistic framework to address girls' and boys' needs comprehensively (health, safety, security, nutritional status, psychological well-being of boys and girls, in addition to teacher training and the appropriateness of the teaching methods and learning resources used for schooling).

4.2 Effectiveness of the project

a. Rehabilitation/construction of WASH facilities in targeted schools

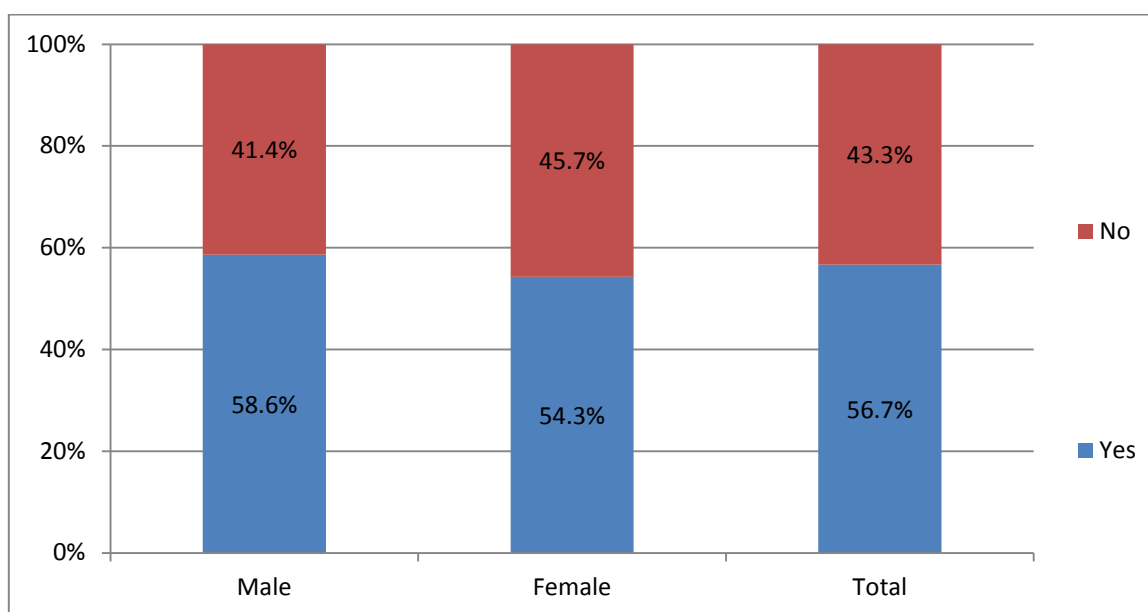
In general, the rehabilitation/construction activities helped in diminishing the above mentioned water and sanitation problems. Indeed, 89.5% of surveyed teachers/health coordinators stated that the project met the students' needs in terms of water and sanitation infrastructures. It is worth mentioning that a special sanitary unit has been built at each school for the Disabled students. As reported in the focus group discussions with students, the project was overall beneficial, bringing about better infrastructure, more cleanliness, and less crowding. The general good efficiency of the problem is further demonstrated by the results of the field observation, which show that the beneficiary schools perform better than the control group schools in almost all studied indicators.

Below is a description of the project achievements for each component (toilets, water fountains, hand washing sinks) tackled in the framework of the rehabilitation/construction activities.

Toilets

43.3% of the beneficiary students declared that they did not use the toilets before the implementation of the project, the main reasons being (free answers) that the toilets were unclean (for 38.5% of them), unusable (18.5%), or that the respondents did not feel the need to go to the toilets (27.7% of all students, 41.3% of girls), while 56.7% of the students declared that they were using the toilets before the implementation of the project (58.6% boys and 54.3% girls).

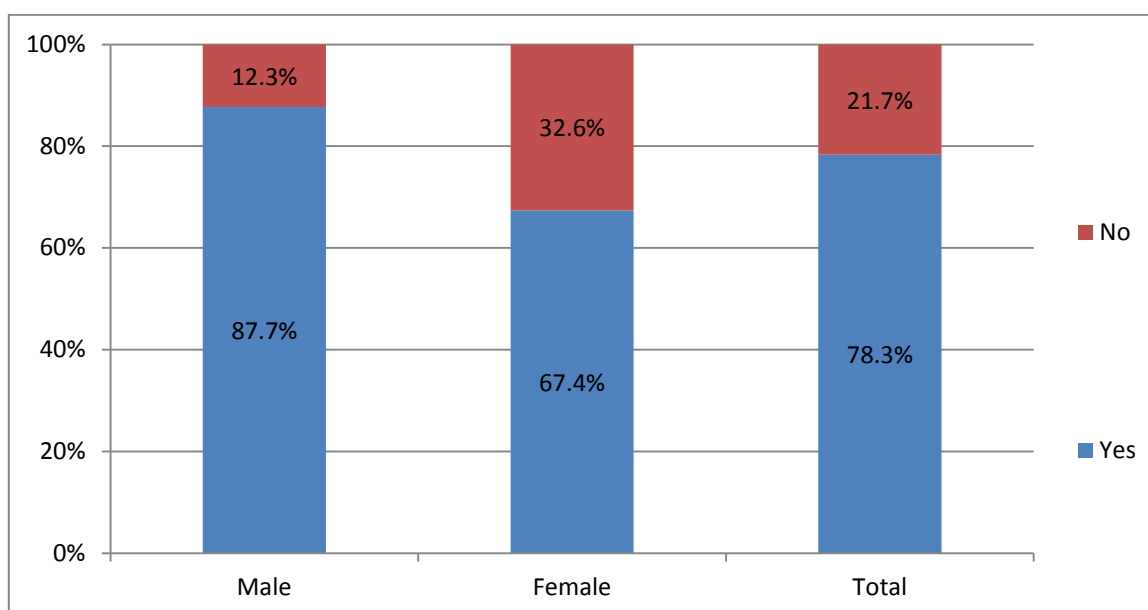
Figure 3: Distribution of beneficiary students by their usage of toilets before the project



This was confirmed by focus group discussions with students and teachers/health coordinators who noted that they used to avoid using the toilets, mainly because of the fear of diseases and disgust from the bad state of the sanitation. Teachers of a school in Gaza explained that before the project, 800 students had to share a few bathrooms, resulting in ending up late to the class because the bathrooms were full and crowded.

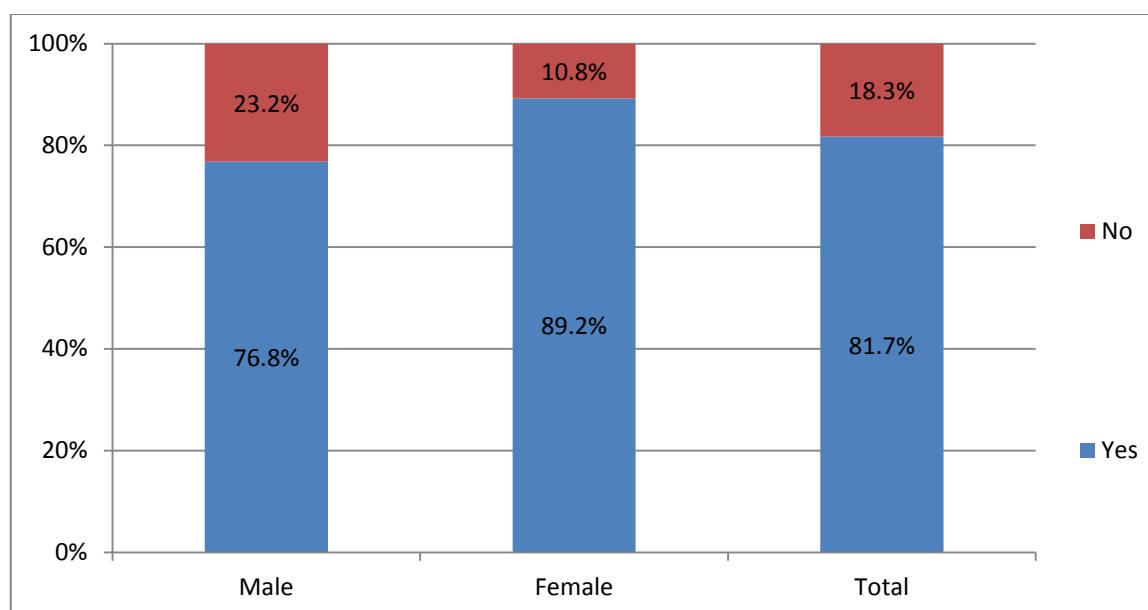
The implementation of the project brought about a net improvement to this situation with an increase of 21.6% of the overall students in using the toilets, as 78.3% of students stating that they now use the toilets (more boys than girls though: 87.7% of boys and 67.4% of girls).

Figure 4: Distribution of beneficiary students by their usage of toilets after the project (currently)



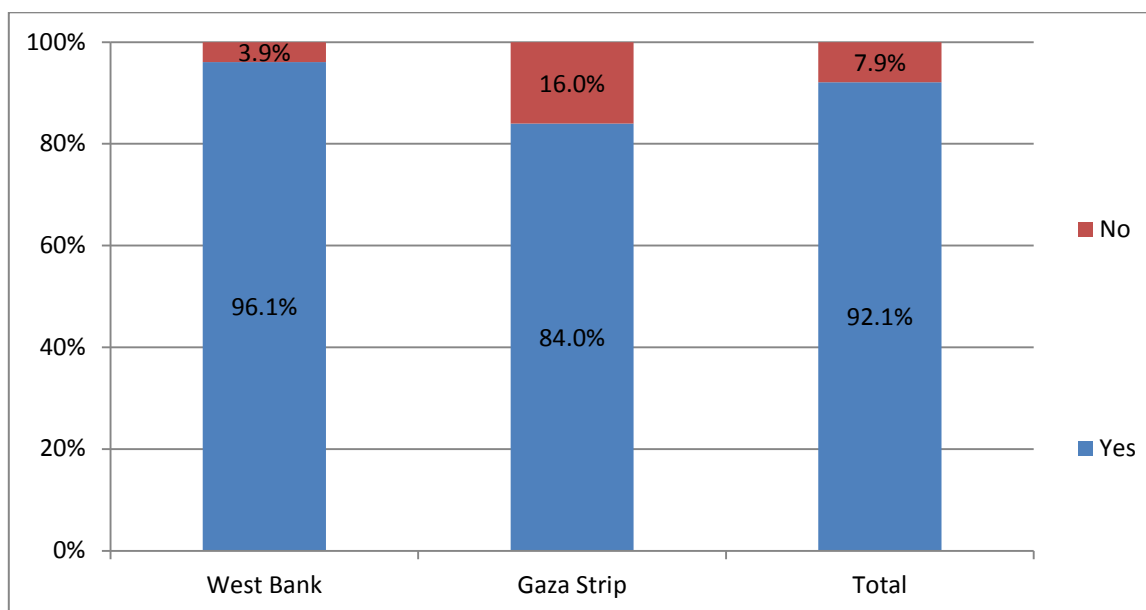
81.7% of those who are currently using toilets declaring that they use the toilets more now than in the past (76.8% of boys and 89.2% of girls). 47.7% of those children who still do not use the toilets indicate that it is because they do not need to go (45% of boys and 48.9% of girls), and 35.4% because the toilets are unclean (45% of boys and 31.1% of girls). In addition, 81.3% (79.5% boys and 83.3% girls) think that there is a sufficient number of toilets in the school, and 80.7% (78.4% boys and 83.3% girls) said that the project reduced the problems of overcrowding in the toilets. 74% of children said they felt they had more privacy now in the new/renovated toilets (fewer girls however tend to think so: 63% as opposed to 83.3% of boys). 88.3% of students said they felt more secure (same percentage of boys and girls). Last, 88.3% of students said that the project helped in increasing the cleanliness of the toilets, 80.3% that it helped in getting rid of bad smells, 91.7% that it contributed to getting rid of insects, 93.7% and 90.7% respectively that the lighting and ventilation were improved.

Figure 5: Distribution of beneficiary students who currently use the toilets by if their use the toilets after project more than before the project



This satisfaction trends were confirmed by the teachers/health coordinators' survey, with 92.1% of them indicating that they were generally satisfied with the toilets rehabilitation/construction, and 79% noticing that students were using toilets more after the rehabilitation/construction operation. 88.5% also thought that the project helped in improving the cleanliness of toilets, 85.9% that it helped in getting rid of bad odor, and 80.2% that it helped in getting rid of insects.

Figure 6: Distribution of beneficiary teachers/health coordinators by their satisfaction with the project of establishing, repairing / renovating sanitation units?



This positive assessment of the project's outcomes was also confirmed during the focus group discussions. In addition to the above improvements, teachers and health coordinators in the West Bank noted that the location of the new toilets was more convenient and that students particularly enjoyed the new western style toilets which are easier to use than the old Arab style and matching the installations they have at home.

From the survey results, toilets are found in insufficient numbers for 79% of the students in the schools. 86% and 100% of boys in schools in the WB and GS respectively do not have sufficient toilets according to the Palestinian standards where the MoEHE guidelines recommend that there be one toilet for every 25 students in basic schools and one toilet for every 30 students in secondary schools, at a minimum of 8. 67% and 100% of girls in schools in the WB and GS respectively do not have sufficient toilets according to the Palestinian standards.

According to the international standards, toilets are found in insufficient numbers in 52% of the Palestinian students in schools. 29% and 60% of boys in schools in the WB and GS respectively do not have sufficient toilets according to the International standards where International standards are disaggregated by gender: they recommend one female toilet for every 25⁹ or 30¹⁰ girls and one male toilet plus a urinal for every

⁸MoEHE, "Guidebook of school health and environment standards", Palestinian National Committee of School Health and Environment Standards, School Health National Committee, 2003.

⁹Adams, J., Bartram, J., Chartier, Y. and Sims, J., Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, WHO, Geneva, 2009.

5011boys or one toilet for 6012boys. 33% and 100% of girls in schools in the WB and GS respectively do not have sufficient toilets according to the international standards.

Gender considerations

When asked if girls' needs were taken into consideration during the design stage, schools principals answered positively, listing a number of gender-sensitive measures which had been taken such the reparation of door handles and lockers so that doors can close well, the construction of a wall to separate the toilets from the schoolyard and ensure more privacy, an increase in the number of western toilets, especially for very young girls (to be more than half of the total number of toilets, unlike what was planned by the MoEHE: two thirds of Arab toilets and one third of western toilets).

In general, all co-ed schools, either project beneficiaries or not, have separate toilets for male and female teachers, and for male and female schoolchildren.

Gaps/issues

However, some needs and problems were not satisfactorily tackled by the project. First, it was mentioned during focus group discussions that the number of sanitation units was still insufficient compared to the high number of students¹³. This was also mentioned by 25.5% of the surveyed teachers, despite the fact that 80.8% of them stated that the project reduced the problems of overcrowding in the toilets¹⁴. Second, there was a continuous complaint about the absence of hygiene supplies, mainly toilet paper and soap. The reason was that schools received cleaning material only in GHWD, and supplies of hygiene kits were not part of the project. Some schools were included only in GHWD celebrations, and as a consequence students still have to bring their own toilet paper and soap at school. This was confirmed by the field observation, which showed that in 95% of cases toilet paper was not available. Last, some teachers regretted that some of the toilets did not have bidets ('shatafe').

¹⁰The Sphere Project, Humanitarian Charter and Minimum Standards in Humanitarian Response, UK, 2011.

¹¹Adams, J., Bartram, J., Chartier, Y. and Sims, J., Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings, WHO, Geneva, 2009.

¹²The Sphere Project, Humanitarian Charter and Minimum Standards in Humanitarian Response, UK, 2011.

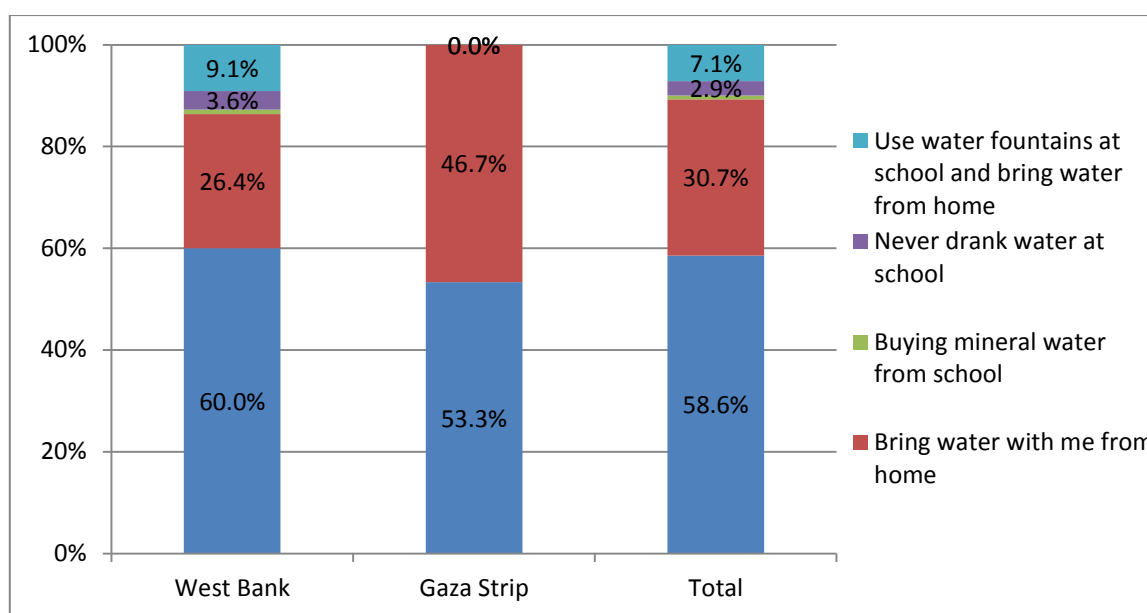
¹³ N.B.: The fact that some beneficiaries indicate that the number of water and sanitation facilities in their school is not sufficient can be accounted on the fact that their schools benefitted only from the rehabilitation of existing units (as opposed to the construction of new ones).

¹⁴ The field observation exposed the fact that sometimes overcrowding in the toilets is due to students smoking inside.

Water fountains

Prior to the implementation of the project, a mere 58.6% of students mentioned that they drank water from the schools water fountains (56.3% of girls), with 30.7% bringing water from home. The reason given for not drinking from the school water fountains were that water was unclean/unsafe (41.7%), that they were not sure if water fountains were clean (31.3%), or that the water fountains were unusable(8.3% - 20% of girls). An insufficient number of water fountains were reported by 4.2% and crowding at water fountain by 4.2% as well. 12.5% of students incriminated the fact that water was not available or that there were water cutoffs. This poor assessment of the state of water fountains was confirmed in the control group schools, where again the concern with the quality of drinking water was particularly high among girls (74.1% of them believing that water is unclean and unsafe, and 25.9% that water fountains are contaminated - as opposed to 4.8% of boys).

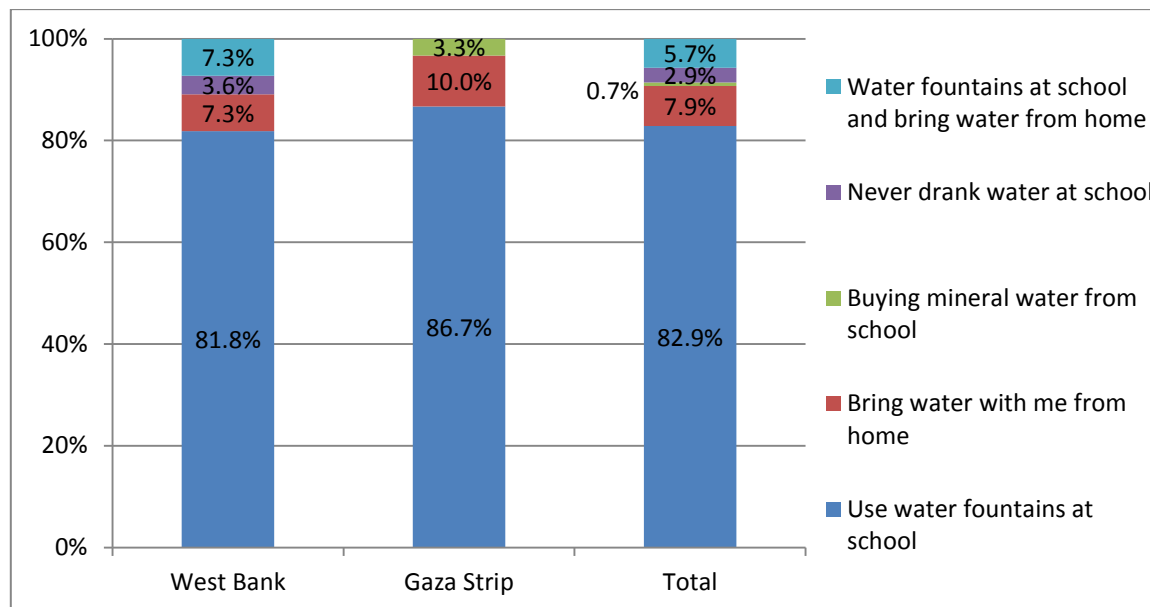
Figure 7: Distribution of beneficiary students by their usage of water fountains before the project



After the building of new water fountains/repair of the old ones through the project, there is a clear augmentation of the percentage of students reporting drinking from the water fountain, with 82.9 % doing so (compared with 58.6% that were doing so before the building of new water fountains/repair of the old ones) and 5.7% combining drinking from the water fountains and bringing water from home. This is confirmed by the declaration of the students themselves, with 83.1% stating that they use the water fountains more frequently now. Among the few who still do not drink from the water fountains, the reason is inner comfort (not sure if water is clean - 56.3%), no need for

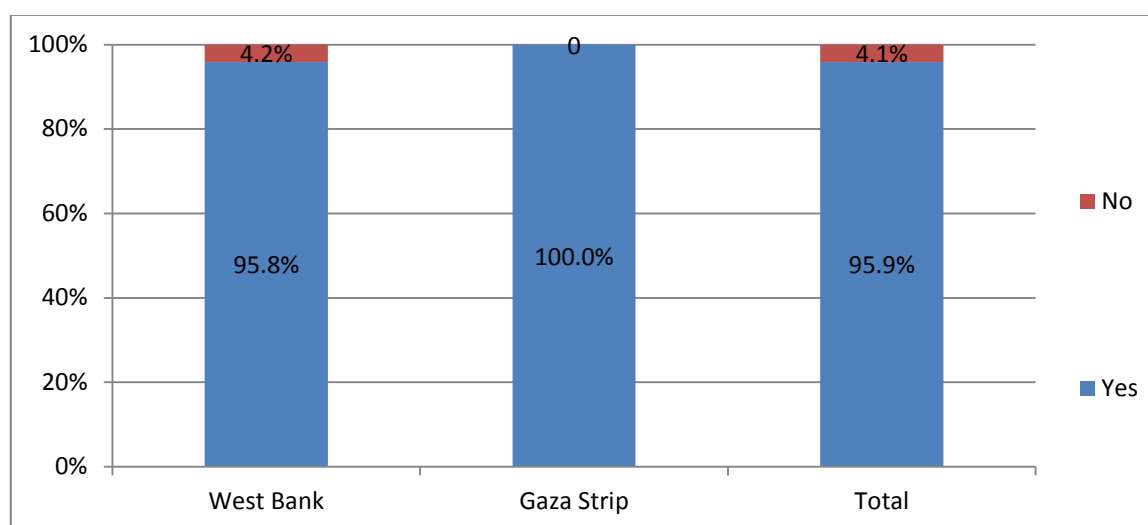
drinking (31.3%)¹⁵, and unsatisfactory cleanliness of fountains (12.5%). In addition, 84.3% of students were now satisfied with the number of water fountains and 89.3% declared that the project reduced the problems of congestion at the water fountains. 83.6% thought that the water from the tap is safe.

Figure 8: Distribution of beneficiary students by their usage of water fountains after the project



This satisfaction trends were confirmed by the teachers/health coordinators' survey, with 95.9% of them indicating that they were generally satisfied with the water fountains rehabilitation/construction, and 89.1% observing that students were using the water fountains more after the rehabilitation/construction works.

Figure 9: Distribution of beneficiary teachers/health coordinators by their satisfaction with the project of establishing, repairing / renovating water fountains?



¹⁵ N.B.: By "No need for drinking", some very young children (4-6 grades) meant no need for drinking water "from the school fountains" because they followed the instructions of their teachers to bring their own bottle of water.

The field observation permitted to notice also that water fountains were appropriate or very appropriate to the students' height in 75% of cases (as opposed to 45.5% of cases in the control group schools). On the other hand in 25% of the sampled schools, fountains height was not suitable some of the low grade students, as their height does not allow them to use the fountains easily.

From the survey results, water fountains facilities are found in insufficient numbers in 65% of the surveyed schools. 57% and 80% of boys in schools in the WB and GS respectively do not have sufficient water fountains according to the Palestinian standards where the student-to- water fountain ratio recommended by the Ministry of education is 30:16. 20% and 100% of girls in schools in the WB and GS respectively do not have sufficient water fountains according to the Palestinian standards.

Gaps/issues

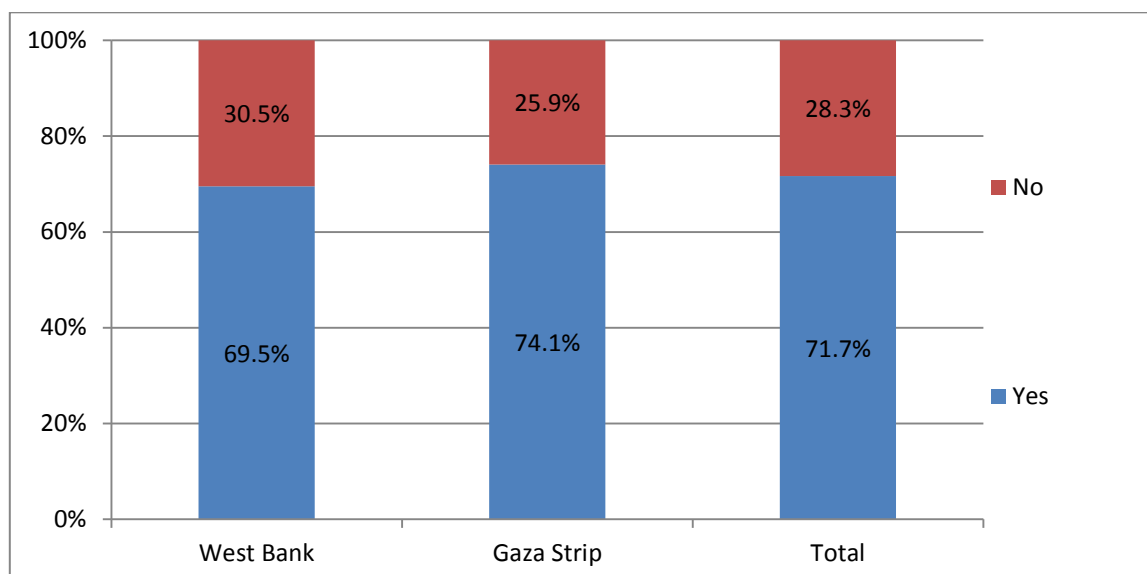
The focus group discussions with students and teachers confirmed the general satisfaction with this component of the project but highlighted some shortcomings, such as the fact that covers to protect the drinking fountains from insects were not provided. The lack of hygiene awareness among students was also pointed at, as some students reportedly put their mouth directly on the spout, or throw papers and garbage in the fountains. Last, although 84.7% of teachers/health coordinators said that the project reduced the problems of overcrowding, almost a third (30.7%) indicated that the number of water fountains was still not sufficient in their schools. This fact was somewhat confirmed by the data collected from principles, it is found that the number of water fountains is insufficient in 65% of the Palestinian schools. When the data are disaggregated, Gaza and girls appear to be at a greater disadvantage.

Hand washing sinks

Prior to the implementation of the project, 71.7% of beneficiary students used hand washing sinks at school. Among the 28.3% who did not, the reasons (free answers) were that there were unusable (42%) or unclean (16%), that there were unavailable (11.1%), that respondents did not enter the toilets altogether (4.9% - 18.8% of girls), or because they were using the water fountains to wash their hands (7.4% - 25% of girls).

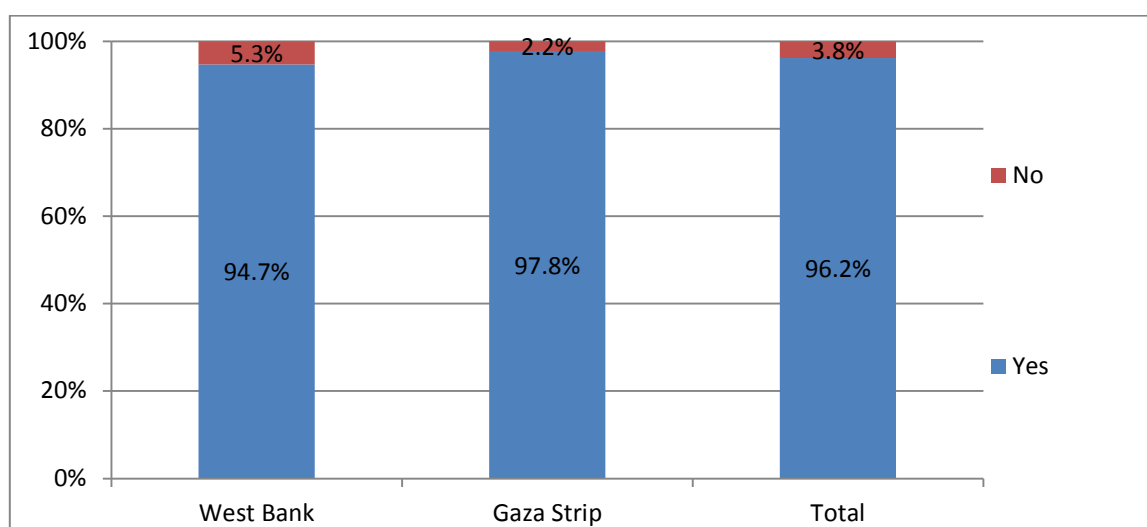
¹⁶MoEHE, "Guidebook of school health and environment standards", Palestinian National Committee of School Health and Environment Standards, School Health National Committee, 2003.

Figure 10: Distribution of beneficiary students by their usage of hand washing sinks before the project



Further to the works conducted on the hand washing sinks, 96.2% of students now report using the sinks (compared with 71.7% of them before implementing the project) and 86.5% using those more frequently now. This latter piece of information was confirmed by 87.9% of teachers/health coordinators. Among the few 3.8% students who still do not use the sinks, 45.5% declare that they prefer using the water fountains instead of the sinks to wash their hands because it feels more comfortable (60% of girls expressed such an idea), and 18.2% (respectively) because they do not enter the toilet, because there is no water in the sinks, or because the toilets are crowded. In general however, students (81.1%) are satisfied with the number of hand washing sinks and 84.2% of surveyed teachers/health coordinators stated the project permitted to reduce the use of water fountains by students for the washing of hands.

Figure 11: Distribution of beneficiary students by their usage of hand washing sinks after the project



In addition, the field observation shows that sinks were appropriate for use in 70% of cases (beneficiary schools), and that in 95% of cases their height was well or perfectly well adapted to students' height. On the other hand in 30% of the sampled schools, fountains height was not suitable for some of the low grade students, as their height do not allow them to use the fountains easily.

From the survey results, hand washing sinks are found in insufficient numbers for 88% of the Palestinian students schools. 100% of boys in schools in both the WB and GS do not have sufficient toilets according to the Palestinian standards where the MoEHE guidelines recommend one washing basin for every 30 students at a minimum¹⁷. 75% and 50% of girls in schools in the WB and GS respectively do not have sufficient hand washing sinks according to the Palestinian standards.

According to the international standards, hand washing sinks are found in insufficient numbers in 54% for the Palestinian students in schools. 29% and 60% of boys in schools in the WB and GS respectively do not have sufficient toilets according to the International standards, where International standards call for one hand-washing place for every 50-100 students¹⁸ 33% and 100% of girls in schools in the WB and GS respectively do not have sufficient hand washing sinks according to the international standards.

Gaps/issues

Again, there was dissatisfaction with the soap supplies, with 31.1% of students thinking that soap was not available on sinks on a regular basis and 27.3% that it had never been. This assessment was not shared by teachers/health coordinators, with 85.3% of them saying that soap was regularly and sufficiently available near the hand washing sinks. The reasons for inconsistency between the teachers' answers and the observation/students can be explained by the fact that most of the teachers may not enter students toilets often enough to know. However the field observation shows that in 65% and 95% of cases (respectively) soap and paper were not available on sinks.

Besides, some Gaza teachers/health coordinators participating in the focus groups discussions indicated that the sinks at their schools were still in need of repair. The teachers/health coordinators' survey also showed that 31.1% of them still believed that the number of sinks is not sufficient in their schools.

¹⁷MoEHE, "Guidebook of school health and environment standards", Palestinian National Committee of School Health and Environment Standards, School Health National Committee, 2003.

¹⁸UNESCO, FRESH Tools for Effective School Health, Guidelines for the Provision of Safe Water and Sanitation Facilities in Schools, website available at <http://www.unesco.org/education/fresh>

From the survey results, water fountains facilities are found in insufficient numbers in 65% of the Palestinian schools. 57% and 80% of boys in schools in the WB and GS respectively do not have sufficient water fountains according to the Palestinian standards where the student-to- water fountain ratio recommended by the Ministry of education is 3019. 20% and 100% of girls in schools in the WB and GS respectively do not have sufficient water fountains according to the Palestinian standards.

b. Hygiene promotion training campaigns in the schools under rehabilitation

The importance of the hygiene promotion component of the project was confirmed by UNICEF WASH Chief, who mentioned that the following had been conducted so far: sensitization of schools health clubs, celebrations of Global Hand Washing Day (including activities for both children and teachers), ToT (Training of Trainers) training of 2 MoEHE staff members in Amman, and development of a hygiene promotion manual for use as a teachers' aid to school curriculum for grade 1-4.

The field survey, and particularly the comparison between the awareness-raising activities carried out by the beneficiary and control schools, shows that the efficiency of this component of the intervention is overall satisfactory. In particular, although a variety of education activities on hygiene, health and the protection of the environment occur on a regular basis in both beneficiary and non-beneficiary schools, a wider range of topics are addressed in the former, especially when grades 4, 5, and 6 are taken into consideration. Besides, the comparison between the knowledge and practices of the two groups of students revealed that these awareness-raising activities are having some impact (see 'Impact' section below).

The following is an analysis of the awareness-raising activities conducted in experimental and control schools disaggregated by training agents, topics and tools.

Awareness-raising

Providers of information on hygiene, health or environment are usually the students' main teacher, followed by school health coordinators, another teacher in the school, and other students. The values were very similar in the experimental and control groups. Note that the teachers of grades 4, 5, and 6 were targeted by the hygiene awareness activities.

¹⁹MoEHE, "Guidebook of school health and environment standards", Palestinian National Committee of School Health and Environment Standards, School Health National Committee, 2003.

Awareness-raising topics

According to non-beneficiary students, the main topics addressed in their schools were (multiple choice questions): the cleanliness of class/home/neighborhood (98.0%) nails cutting (96.0%), and personal hygiene (84.7%). The same three topics came first in the experimental students survey, with no major differences in terms of percentages (cleanliness of class/home/neighborhood: 99.1%; nails cutting: 98.2%; personal hygiene: 95.2%).

A more significant difference between non beneficiary and beneficiary schools, especially for grades 4 to 6, was observed on other topics, and particularly on those subjects related to hand washing and toilets use. For instance, the subject of the correct ways of washing hands was addressed by 91.6% of teachers/health officers in the beneficiary schools (as opposed to 64.3% in the control group), the subject of the safe and correct ways of using toilets was addressed by 89.2% of teachers/health officers in the beneficiary schools (as opposed to 53.1% in the control group), and the topic of diseases transmissible through the toilets was addressed by 78.0% of teachers/health officers in the beneficiary schools (as opposed to 39.8% in the control group of teachers/health officers). Other topics, such as the proper disposal of waste, health risks, oral and dental health, and how to bathe, were also promoted more frequently in the beneficiary schools (again, especially in grades 4 to 6) than in the control schools according to the teachers/health officers (i.e. respectively: 90.4% compared to 64.3%; 89.2% compared to 67.3%, 88% compared to 66.3%, and 69.9% compared to 42.9%). Awareness-raising on the subject of water storage and sterilization was quite low in both groups, but still higher in the beneficiary schools (57.8% as opposed to 31.6% in control groups).

Awareness-raising tools

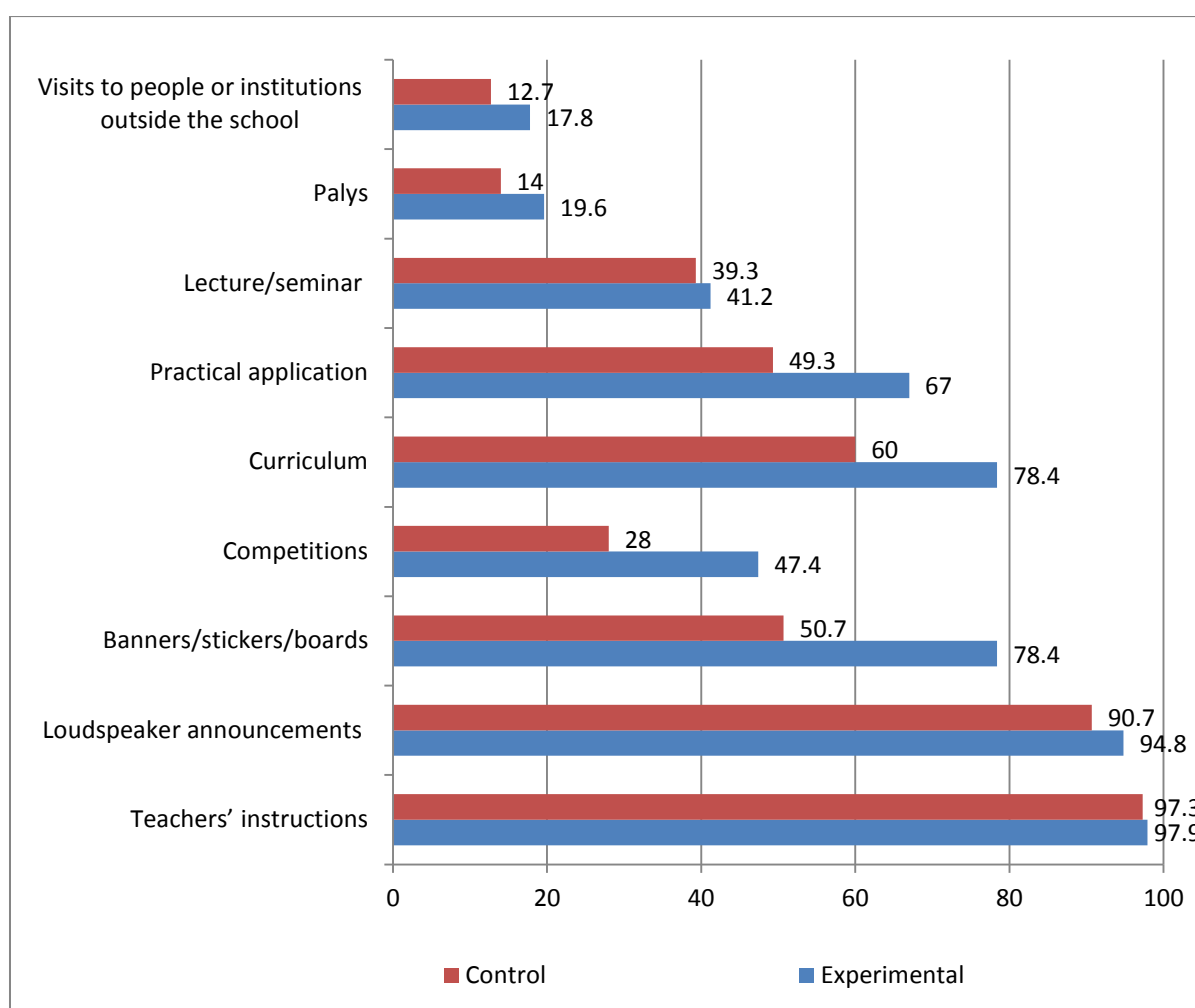
A variety of tools were mentioned by the various informants in focus groups and interviews, including informational sessions during the class as part of the curriculum, loudspeaker announcements, weekly inspections of students' personal hygiene, publication of information material, lectures by external speakers including nurses and medical staff, use of social media such as Facebook, discussions with mothers, etc.

In general, the quantitative survey showed a reasonable difference between the control and experimental groups in terms of awareness-raising tools. Teachers' instructions and loudspeaker announcements came first for both control group students (97.3% and 90.7% respectively) and beneficiary schools students (97.9% and 94.8% respectively). A large difference was that banners/stickers/boards/magazines were more used by the project beneficiary schools 78.4% (compared to 50.7% of control group students). Another large difference was noticed which is using the competitions as a hygiene

awareness tool; this tool was used by 47.4% of experimental schools (compared to 28% control).

Other awareness tools obtained large differences in the percentages between the experimental and control: curriculum (78.4% experimental, 60% control) and practical application (67.0% experimental, 49.3% control). Additionally, other tools obtained minor differences in the percentages between the experimental and control: lecture/seminar (41.2% experimental, 39.3% control), plays (19.6% experimental, 14% control), and visits to people or institutions outside the school (17.8% experimental, 12.7% control).

Figure 12: Distribution of students in experimental and control schools students by type of awareness tool used in distributing the hygiene messages



MoEHE hygiene manual

With UNICEF support, MoEHE Hygiene Promotion Manual for grades 1 to 4 was finalized in November 2013 and is being distributed by MoEHE to the concerned schools (44 schools in WB and 35 schools in GS according to the second progress report).

When interviewed on the manual, nine school principals out of 20 expressed a positive assessment, saying it is comprehensive, detailed and useful. According to UNICEF second progress report, a total of 220 teachers, principals and school health committees from the concerned schools participated in six workshops on the proper use of the manual with students and parents. Two school principals interviewed by the evaluation team declared that the workshops were beneficial and employed an interactive method encouraging participants to review and comment on the manual. Parents and students were not always present in the workshops. According to a MoEHE staff member, one of the six workshops was canceled because of the strike, and then the workshop was carried out after the strike.

As per the project arrangements, school principals are now responsible for the training of teachers in their respective schools. So far, the survey shows that 61% of teachers and health/coordinators have been informed about the manual by their respective school headmaster and 58.2% of them received a copy. All of those (100%) who did receive a copy said that the school principal instructed them on how to use the manual and to implement the activities mentioned therein.

Training of Trainers

Two employees of MoEHE received a ToT training organized by UNICEF in Amman. The training covered the following topics:

- ~ How to train teachers/health coordinators on conducting WASH needs assessments
- ~ How to train teachers/health coordinators on planning hygiene promotion activities
- ~ How to train teachers/health coordinators on implementing hygiene promotion activities

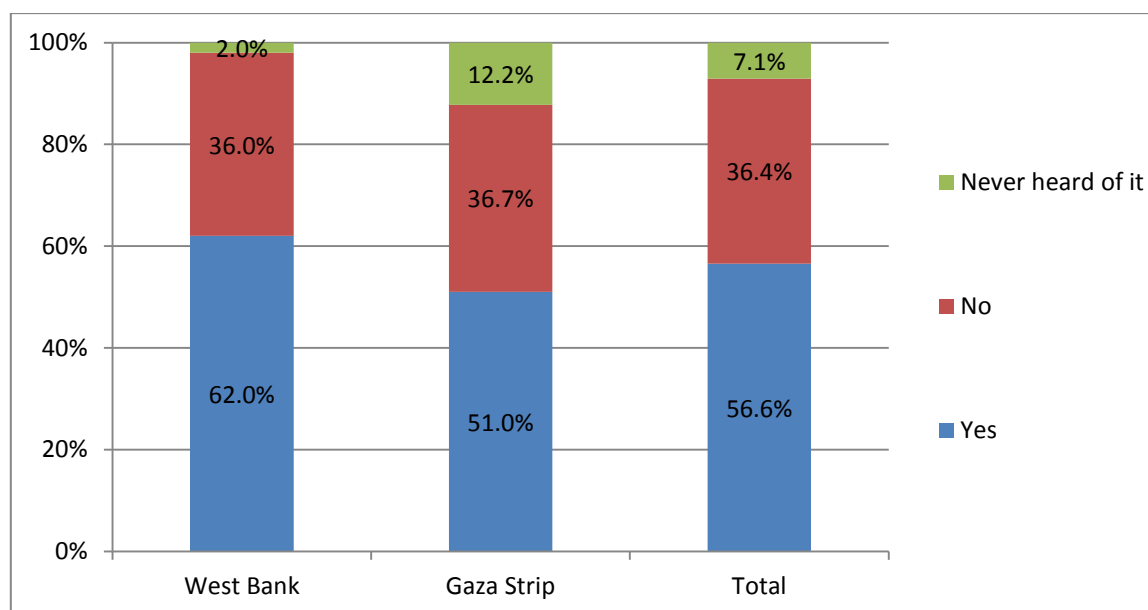
The ToT trainings have not been conducted to the organization of further trainings of teachers and schools health committee members but, according to a representative of the ministry, they were beneficial in that the two trained employees used their newly acquired skills when interacting with teachers and school health committee members.

Celebrations of Global Hand Washing Day

The project's latest progress report (dated January 2014) indicates that the Global Hand Washing Day was celebrated in both West Bank and Gaza with the participation of 31,000 students and 156 teachers in 156 schools (GS 60 and WB 96) in drawing, short story, drama, and songs related to good hygiene practices including hand-washing and rationalization of water consumption.

The survey among schools which held Global Hand Washing Day activities show that 35.9% of students participated in the activities. These percentages were higher among grades 4 to 6 students, with 56.6% of them saying that they participated in the Global Hand Washing Day activities (and only 7.1% saying that they had never heard of the event). Similar results were obtained from the teachers/health committee's survey, with 51.3% saying they participated in the Global Hand Washing Day, and a higher 67.1% of teachers of grades 4-6 students stating they did so.

Figure 13: Distribution of beneficiary student from grades 4, 5 and 6 by their participation in the Global Hand Washing Day



The students who did participate in the Global Hand Washing Day declared having received information mainly about the correct and safe methods to use the toilets (82.3%), personal hygiene (99%), nails cutting (100%), and diseases transmissible through toilets (67.7% - this was mentioned by a higher number of teachers 78%). Students participating in the focus group discussions gave more details about the activities carried out on that day, which included competitions (drawing, writing, theatre) and demonstrations and practices of correct hand-washing.

Hygiene kit

The survey of students having received the personal hygiene kit, among them 63.4% of girls, showed that 100% of them used the toothbrush, and that 81% bought a new one when the received one became out of use. 100% of the kit receivers also used the tooth paste, soap and shampoo, with high percentages of students buying new units when those provided were finished.

Positive feedback on the personal hygiene kit was expressed during the focus group discussions with students and teachers/health coordinators, who declared that the kits were useful and gave students an incentive to maintain a good personal hygiene. These results reinforce the goals of the project where the students' behavior improved as a result of the use of the hygiene kit. Most of students pointed out that they replaced the old brush with a new one when it became out of usage, as well as the matter of the use of soap, which reinforced the habit of washing hands and maintaining the personal hygiene. The students in the focus groups emphasized the importance of the hygiene kit on the personal hygiene of the students who received this bag and reflected positively on their families.

Gaps/issues

In focus group discussions, some participants declared the fact that no instructions were conducted specifically on how to maintain the cleanliness of the toilets and other built/rehabilitated water and sanitation facilities, or on how to use them properly.

C. Provision of safe drinking water through water tankering

As specified earlier, among the 22 beneficiary schools targeted by the evaluation, three schools benefitted from water tankering.

Survey respondents and focus group participants indicated a general improvement of the provision of water. While 60.9% of students reported occasional water cutoffs prior to the implementation of the project, the figure dropped to 30.4% after the works carried out through the project. As for teachers and health coordinator, 96.7% of them declared that the project provided the school with safe drinking water. 66.7% of them noted that before the project there were occasional water cutoffs, while this percentage declined to 23.3% after the project started to be implemented.

Gaps/issues

In the Gaza Strip, where huge constraints on the provision of water and electricity are put by the Israeli blockade (e.g. teachers/health coordinators explaining in the focus group discussions that very rarely both water and electricity are available at the same time and that water cutoffs/electricity cutoffs of up to 2-3 daycare routine, as some tankers in GS oblige the electricity to run their pump that deliver water from the tanker to the reservoirs above the school, and in the absence of electricity, water cutoffs happen), the project did help in improving the situation but not entirely (e.g. not sufficient number of water tanks provided). In general, 23.3% of surveyed teachers and

health coordinator declared that their schools do possess enough water tanks for the storage of water.

D. Support MoEHE operation and maintenance to ensure sustainability

See 'Sustainability' section below.

4.2.2 Progress against planned results

According to UNICEF Second Progress Report dated January 2014²⁰, the following progress was observed against planned results and activities:

Result 1. Improved access of girls and boys in targeted schools to safe drinking water and adequate sanitation and hygiene

This result is achieved mainly through activities (1) and (3) related to construction/rehabilitation of WASH facilities in schools; and water tankering to schools, respectively, and described below in detail.

- Around 10,000 students (43% girls) in 25 schools in WB had access to safe drinking water through water tankering in 2012 – each student receiving 5 liter per day.
- Around 56,000 students (29,484 girls) and 2,430 teachers in 81 schools in GS had access to at least 1 liter of safe drinking water through water tankering in 2013.
- Around 50,000 students (23,540 girls) benefitted from improved access to safe drinking water and adequate sanitation through the rehabilitation and construction of WASH facilities in 68 schools (29 West Bank and 39 in GS). Another 22,226 students (13,623 girls) will be reached at the completion of works in April 2014 currently ongoing in another 24 schools GS.
- Safe drinking water and adequate sanitation were restored in 38 schools in Gaza that had incurred damages during the 2012 November hostilities. The repairs included replacement of tanks, rehabilitation of sanitation units, rehabilitation of hand washing basins, and repair of drainage networks.

Result 2. Improved operation and maintenance mechanisms in targeted schools to ensure sustainable WASH facilities

This result is achieved mainly through activity (4) described below in detail.

²⁰ Second Progress Report, 'Improving WASH facilities in prioritized schools in the West Bank and Gaza Strip, January 2012 – December 2013', UNICEF occupied Palestinian territory, January 2014

- Discussions continue with MoEHE for ensuring schools with upgraded WASH facilities adopt appropriate maintenance practices to keep facilities clean and operable including adequate soap and hygiene supplies. A total of 132 schools (72 in WB and 60 in GS) in 2012 and 30 schools in WB in 2013 received cleaning material to cover the gap in schools' budgets for hygiene tools and cleaning supplies.
- A feasibility study was conducted by a consultancy firm on the potential piloting of solar distillation technology use in schools in WB and GS. Expressions of Interests (EOI) will be sought for the construction of the pilot project in January 2014.

Result 3. Improved hygiene practices in targeted schools among girls and boys and teachers (male and female) in targeted schools

- A training hygiene promotion manual including IEC materials for use as a teachers' aid to school curriculum for grade 1-4 was implemented in 44 schools in WB and 35 schools in GS. A total of 220 teachers, principals and school health committees participated in six workshops on the use of the manual with students and parents. The planned activities were to train 1000 teachers per year.
- Around 31,000 students and 156 teachers in 2012 participated in the Global Hand washing campaign and received hygiene promotion messages; in addition to over 4,000 personal hygiene kits. The planned activities were that at least 20,000 students (at least 50 per cent girls) per year should receive hygiene promotion messages and participate in the Global Hand washing Day campaigns.
-

Result 4. Enrolment and attendance rates are improved at schools where inadequate WASH facilities have been identified as a negative factor on attendance (particularly for girls).

- Discussions with MoEHE in 2012 resulted in agreement to maintain a monitoring sheet in the schools with upgraded WASH facilities to assess the attribution of this project to improved enrolment and attendance.
- The ongoing Mid-Term Evaluation of the WASH in School program is intended to assess the program progress against its objective, factors influencing the program, cost efficiency, and sustainability – as well as its attribution to improved enrolment and attendance.

a. Progress against planned activities

1. Rehabilitation/construction of WASH facilities in targeted schools

A preliminary assessment of the targeted schools was carried out jointly with MoEHE Directorates to validate the information provided by the Construction Department of the MoEHE and determine the scope of the rehabilitation/construction needed for each. Usually the information validated in the field is related to the conditions of the WASH facilities to ensure adequate number of facilities according to the student population and MoEHE standards. The analysis of the preliminary assessment was then shared with the MoEHE and the scope of the works needed to improve the WASH facilities agreed. The gender issue is strongly considered when the number of WASH facilities is determined as well as the location, in the case of new constructions. Also all the new construction has provided one toilet for students with disability. Safe environment is created to the children with fixing of doors, windows and proper disposal of wastewater either through possible connection to the sewer lines or new septic tank.

Rehabilitation / construction of WASH facilities was completed in 68 schools (29 schools in the West Bank and 39 in Gaza) targeted in 2012.

A total of 60 schools required rehabilitation (6 in WB and 54 in GS); while 32 required new constructions (23 in WB and 9 in GS). Detailed designs and drawings were produced by the partner NGO (PAH) for the schools in the West Bank and by MoEHE for the schools in Gaza. Accordingly, tender documents were prepared for the contractors bids. The schools were grouped into different packages based on the location for cost effective bidding and monitoring. Rehabilitation and construction of WASH facilities in packages 1, 2, 3, 4 and 5 (a total of 29 schools in WB and 39 schools in GS) is completed. The construction activities included foundation, complete structure, sanitary wares for toilet and hand washing, drinking water taps and septic tanks. However, all the construction activities include one year defects and liability from the contractors. The completed schools have been handed over to the principal of the schools with participation of the MoEHE, PAH, UNICEF and the contractors. Work is ongoing in the other packages (Gaza 2013 packages 5 & 6 in table 2) and expected to be completed by end April 2014.

To ensure sustainability of the upgraded WASH facilities in the targeted schools, UNICEF held a number of meetings with MoEHE directors of School Health; the Building Construction; as well as with engineers from MoEHE directorates where the construction is being carried out at targeted schools – to agree defined operation and maintenance plans. The MoEHE has sensitized school health committees in all schools and is currently establishing Environmental Health Clubs to ensure increased community participation. This is in line with the recommendations in the 2011 KAP survey supported by UNICEF.

Cleaning materials were distributed to 132 schools (72 in WS and 60 in GS) in 2012 and 30 schools in WB in 2013 as part of the hygiene promotion, and especially in order to

cover the gap in schools budgets for hygiene tools and cleaning supplies. This included soap for washing hands; and chlorine and bleach for cleaning the WASH facilities.

A technical feasibility study and detailed design has been undertaken by a consultancy firm for the piloting of solar distillation technology use in WB and GS schools. The study investigated several solar distillation technology designs Options and a preferred Option was selected based on the simplicity in construction and maintenance, cost and efficiency in producing clean water. Detailed designs were undertaken for one school in WB and two schools in GS. School selection for this study was based on access to safe drinking water, student population and the availability of space on school roof tops. A financial and technical analysis of the potential number of schools the pilot project is to be implemented in. Expressions of Interests (EOI) will be sought for the construction of the pilot project in January 2014.

2. Hygiene promotion training campaigns in the schools under rehabilitation including pre-and post- KAP study, and culminating in Global Hand-washing Day Campaigns

Based on the recommendations from the 2011 pre-KAP Survey on hygiene practices, a draft teachers' aid manual on hygiene promotion for Grades 1 through 4 has been reviewed by MoEHE as well as teachers and principals who have first-hand knowledge of the local education context. The manual includes different hygiene messages and practices grouped under four topics: i) hand washing, ii) bathing and body hygiene, iii) proper use of toilet, and iv) proper use of drinking water.

Six teacher training/ workshops (4 in WB and 2 in GS with six hours for each group) on the use of the manual have been conducted during 2012 and 2013. The manual includes a step by step guide for teachers and parents on monitoring good hygiene practices in the school and at household level. Different scenarios were discussed with PAH and School Health Department of the MoEHE to define the best approach to the planned training sessions on the Manual. The training workshops were conducted for 44 basic schools in WB and 35 schools in GS to ensure that the manual is properly used by all the teachers as a guide on hygiene education. School principals will be responsible for the training of the teachers in their respective schools.

As part of the hygiene awareness campaign, Global Hand Washing was celebrated in both West Bank and Gaza with the participation of 31,000 students and 156 teachers in 156 schools (Gaza 60 and WB 96) in drawing, short story, drama, and songs related to good hygiene practices including hand-washing and rationalization of water consumption. Also a total of 4,224 personal hygiene kits were distributed to students in the West Bank.

During discussions with MoEHE in early 2013, it was agreed that MoEHE will be responsible for the sensitization of Environmental Health Clubs at schools. MoEHE are currently establishing Environmental Health Clubs at three schools per directorate per year, a total of 48 schools per year (According to School Health General Directorate annual plan).

3. Provision of safe drinking water through water tankering (in 90 Gaza schools due to poor water quality supplied through the network system, and in 25 vulnerable schools in West Bank that are not connected to the water networks)

In 2012, water tankering was provided to 25 schools in the West Bank benefiting around 10,000 students (around 50% girls) with safe drinking water. In 2013, 81 schools in GS benefited from water tankering benefiting 56,000 students (29,484 girls). Discussions with the Palestinian Water Authority continue to connect the schools with permanent public networks, where feasible, in order to provide water to the schools in a cost effective and sustainable manner. Minor repairs of leaky taps, cleaning and replacement of the roof top tanks were also carried out as necessary.

In 2012, the Turkish Red Crescent installed 10 reverse osmosis (RO) water treatment systems in schools. MoEHE is delivering treated water from these units to other schools using MoEHE water tankers. In 2013, UNICEF supported MoEHE by hiring two additional water tankers from Coastal Municipalities Water Utility (CMWU) to ensure adequate water to targeted schools in Gaza.

4. Increase enrollment and attendance especially for girls

Measuring the impact of the WASH project on attendance was not possible because of the lack of supporting data from the schools; the attendance sheets at schools do not include the reasons for absences of students even though this issue was agreed upon beforehand with the schools. However, WASH in schools will definitely contribute in improvement of quality of education for girls. Enrollment and attendance of female students will increase by the presence of suitable water and sanitation facilities. So by having girl-friendly WASH facilities in schools we can ensure enrollment and attendance of more girl students in their schools. This was agreed upon through the FGDs of students and teachers, but it is difficult to measure the direct impact. For example, from the results of the FGDs, students and teachers emphasized that in the past, there were very few cases of girls students absentees due to lack of suitable toilets, but after the implementation of the project until the moment of the interview, they did not notice the absence of students because of the inadequacy of toilets.

b. Constraints (Bottlenecks) and lessons learnt

There were some constraints have been reported regarding project management and implementation compared with the unstable political situation in the PA. This include the lack of upgraded DB at MoEHE; lack of coordination between building department and principals; lack of standards on the WASH facilities; lack of monitoring the enrollment and hygiene practices; restrictions on entry of materials to Gaza and lack of funds at MoEHE.

The risk assessment and management strategy for the WASH in School program highlighted a number of possible risks. With regards to external risks, this included in 2012 the November hostilities on Gaza. With regards to project design there have been some delays throughout 2012 due to the ministry strikes. In addition, the tendering process in 2012 faced a number of delays related to the Contractor's Union in Gaza; poor response and high cost of bidding and the need for re-tendering. These delays resulted in delayed works in 55 schools – which were completed in 2013.

The ongoing construction and rehabilitation works in Gaza schools are experiencing delays due to the shortage of cement and aggregate as a result of the blockade. This has also resulted in the fluctuation of prices of cement and aggregate by nearly as high as 400 percent (in the case of cement).

As a lesson learnt for expediting the tendering process, and based on gathered experience, UNICEF finalized in 2012 the prequalification process and maintained a list of prequalified contractors for both West Bank and Gaza; all contractors were technically evaluated based on their technical documents provided to UNICEF. Only prequalified contractors were invited to submit their priced BoQs (sealed) for construction and rehabilitation works for water and sanitation facilities in schools in West and Gaza areas. This has reduced tendering time. The financial evaluation of tenders is now undertaken internally by UNICEF Supply Section rather than by a technical committee consisting of UNICEF, MoEHE and the NGO partner as done previously. This is expected to minimize the time taken to evaluating tender offers.

On-site construction and rehabilitation need to avoid as much as possible coinciding with the schooling and should be focused during school holidays mainly (June-August) of each year to minimize disruption of schooling.

Water and Sanitation service sustainability depends on sufficient financial resources and effective financial management. Their sustainability requires additional funds, but those funds need to be used effectively, and bottlenecks that limit the absorptive capacity of local government need to be addressed. The operation and maintenance of Water and Sanitation units at schools need particular support to develop better financial management skills and systems, and to raise the participation of local community including women. However, the ability of user-groups to fund all ongoing operation and

maintenance, including major repairs and consumable materials such as soap and toilet paper is questionable. Cost-sharing arrangements between communities, government, civil society organizations, and donors may therefore need to be extended beyond project planning and implementation phases.

4.3 EFFICIENCY OF THE PROJECT (Implementation and Organizational Performance)

The following assessments on the efficiency of the project (project implementation and organizational performance of implementing actors) were made by the various beneficiaries and stakeholders. They are here presented under two sub-sections: a. Strengths, and b. Weaknesses.

a. Strengths

When asked about what distinguishes UNICEF strategy in the field of WASH in schools setting from that of other organizations, and its performance in this specific project, the following positive assessments were made by MoEHE staff in Gaza and the West Bank:

- ~ Support for MoEHE through collaborative planning in line with MoEHE's goals, standards and priorities, and on the basis of needs assessment and selection criteria designed by the ministry
- ~ Work at improving infrastructure in existing schools (as opposed to other organizations which only focus on building new schools and do not assist in enhancing already established ones) Constant follow-up during and after implementation (Unlike other organizations)
- ~ Integrated approach made up of construction/rehabilitation/maintenance of water and sanitation facilities, provision of hygiene supplies, and hygiene education/awareness-raising activities
- ~ Comprehensive approach when working on the enhancement of water and sanitation facilities (i.e. working on toilets, sinks, water fountains, water tankering, and not on one only of these elements)
- ~ Flexibility, comfort of working with UNICEF, good coordination and communication, feeling that UNICEF trusts MoEHE as implementing partner
- ~ Quality control, accuracy, presence at every step of the project, and excellence of management
- ~ Ability to conduct activities in the face of difficult external conditions (Gaza Strip blockade) and with few construction materials available

The interviews with UNICEF staff highlighted other strengths, such as a higher level of organization, coordination and trust with the ministry and the schools compared to

previous years, the strong technical capacity of both UNICEF and MoEHE in the West Bank and Gaza, the strong drive of UNICEF and MoEHE staff to implement the project, UNICEF's consideration for special needs (cf. providing at least one sanitation unit adapted to people with disabilities in each school).

b. Weaknesses

A number of shortcomings in the actual implementation of the project were however brought to light by the surveys and discussions with beneficiaries and other stakeholders. Those are related to:

Schools database

In the interviews, UNICEF staff remarked that there were gaps in the schools database provided by MoEHE (School Building directorate), which impacted negatively on the selection of beneficiary schools. Field visits conducted by UNICEF in the pre needs assessment phase highlighted indeed that in some cases the description of schools from the database did not match the reality on the ground. It was recommended that the ministry enhance its database as it is essential to conduct a realistic pre needs assessment and subsequent identification of prioritized schools, and thus use donors' funds for the most needy schools.

Contracting process

Contractors were generally satisfied with the contracting process; they described it as overall efficient, simple and practical. However, they pointed out that in the second part of the bidding process, when the pre-selected companies were asked to enter in a closed bid, some of them submitted the CVs of experienced engineers in order to improve their ranking, which resulted in companies with very little experience that were previously in a lower ranking jumping to a higher ranking in the second call. They also indicated that some contractors gave inaccurate prices to lower the total price quote, and that the assessment process should focus first and foremost on the technical aspects of the proposal.

Time between contract awarding and start of the works

The issue raised by MoEHE staff in Gaza was that the time between the contract awarding and the start of the construction/rehabilitation works was long in some projects and allowed for many changes to occur: for example the school may conduct some maintenance work during this period or the facilities may have faced some more damages, conducting to differences between the needs assessment done prior to the implementation from the actual reality when starting the project.

The delay between the call for bids and the beginning of works was also incriminated by some contractors, who indicated that in the meantime the prices of materials had gone up and the difference had to be covered by themselves (which may explain the choice for lower quality supplies, see below). The above situation led to the delay in completing 24 schools in Gaza during 2013 and work was still ongoing and expected to be completed by end April 2014 (5 months delay).

Involvement of the community

Gaza Strip teachers/health coordinators declared in the focus group discussions they had not been involved in setting the priorities/needs of their schools for this project. Some regretted that their principal had not discussed the matter with them before agreeing on the number of units to be constructed.

The situation seems better in the West Bank, where 4 out of the 5 schools represented in the FGD declared that some kind of community involvement took place, mainly consisting in the involvement of the municipality or village council.

The lack of involvement of the communities was also mentioned with regards to the hygiene promotion activities, with teachers/health coordinators insisting on the necessity of involving further parents and families.

Timing and duration of construction/rehabilitation works

Although the survey of teachers/health coordinators indicates that for 95.9% of them the duration of the construction/rehabilitation works was appropriate, the survey of principals show a lower rate of satisfaction with the duration (60%). This was confirmed during the focus group discussions which exposed the discontent of some schools personnel with the duration of the works, lamenting that they had taken much more time than initially planned. Besides, sometimes contractors postponed the final check-up of completed work (obligatory before the units can be accessed and used by the schools), creating further delay. Two schools had thus been waiting for months for their new units and are still left with no toilets since the beginning of the school year. Linked to this issue is the fact that in most cases no sanitation alternatives were provided (this was indicated as a problem during implementation by 13.6% of school principals – open question), thus compelling students to leave the school and use restrooms at home or in the neighborhood.

In addition, the timing of the construction/rehabilitation works itself was judged unsuitable (cf. 60% of principals were not satisfied with the timing of implementation). Indeed, although UNICEF initial time schedule was that on-site construction and rehabilitation work would take place mainly during school holidays (May-July) to

minimize disruption of schooling, the works were deferred and the shortage of building materials as a result of the blockade in Gaza) and in many cases took place during school hours, causing a great deal of disturbances for students and staff (see below in 'Impact' section). The building contractors complained also about the timing, saying that they were disturbed by the students (who broke supplies, played with tools, entered bathrooms during construction, etc.) and that they would have preferred that the works take place during the summer break, as initially planned by UNICEF.

Choosing an appropriate time for implementation of the project was also recommended by 40.9% of school principals when asked for suggestions to improve the efficiency of the project (open question).

Contractors' performance and follow-up

Another issue mentioned by the school personnel both in the West Bank and Gaza Strip was that contractors did not respect the agreed-on time span, did not take the necessary safety precautions, worked in a fractionated way, generated defective and sometimes unusable final products, and on some occasions did not adhere to the initial engineering plan (this last point was mentioned by 18.1% of school principals when asked about the difficulties faced during implementation – open question: "The contractor didn't adhere to the engineering plan" and "The projects weren't implemented as agreed"). There was some agreement that there is a need for greater accountability on behalf of contractors both at the level of MoEHE and the school administration. It was also mentioned that the MoEHE engineers did not follow up with project implementation regularly.

This assessment was shared by MoEHE staff who recognized that there were some technical shortcomings during the implementation phase and regretted a lack of follow-up on the contractors' work by PAH, believing that this accounted for the problems which occurred with the newly established sanitation units after the completion of the works.

One of the interviewed UNICEF staff also declared that there was a lack of daily and accurate follow-up from the ministry.

The contractors however did not share this opinion, stating that regular reports were submitted to UNICEF and the ministry, and that UNICEF engineers worked fulltime on the project and supervised everything that went on. They observed however that in some cases, the supervising engineers provided by the contractors did not monitor the works regularly and were present only at the opening of the project. They also pointed out that only one engineer per governorate was not sufficient when the schools of the area were located far away from one another.

Safety measures

Teachers and health coordinators reported that safety precautions and procedures taken by contractors were deficient, they mainly consisted of oral warnings, and no barriers or advisory materials were used until the school staff itself had to tell the contractors to do so. The survey among students indicates however that 81.6% of them received safety instructions from the school principal and teachers.

Quality of building material (Gaza Strip)

Some focus group discussants (teachers/health coordinators) in Gaza complained about the poor quality of the building material used by contractors (sometimes second-hand), which according to them impacted negatively on the quality of the resulting outputs. This observation was also made by 13.6% of school principals and by the MoEHE staff, who deplored the absence of high quality materials in the local market due to the Israeli blockade and the resulting delay in the construction, renovation and maintenance works.

Coordination between contractors, UNICEF, MoEHE, and schools

45.5% of school headmasters declared that they were satisfied with the coordination between themselves and UNICEF during the project implementation, and 35% said they were very satisfied. Similar results were obtained with regards to the assessment of coordination between schools and the MoEHE (50% satisfied, 40% very satisfied). The coordination between schools and contractors obtained slightly lower results, with 25% of principals being very satisfied, 55% satisfied, 10% unsatisfied, and 10% totally unsatisfied.

This positive assessment on the level of coordination, and especially with the MoEHE (at both School Health and School Building directorates), was shared by the interviewed UNICEF staff, who explained that meetings were held regularly, and that no decision was made without the ministry's endorsement.

However further qualitative investigation exposed that there were some difficulties in coordinating between the various parties. In the in-depth interviews, MoEHE staff in Gaza expressed a quite strong dissatisfaction with the coordination among the ministry, contractors and UNICEF. It was indicated in one interview that within the ministry the coordination was done only at the level of the Department of School Building Services and that the Department of School Health Coordination was not aware of the details of the project's implementation. It was reported that in one case a school principal contacted the Department of School Health Coordination to ask them to follow-up on the

sanitation work in his school but that the personnel of this department was totally missing information on the subject.

Some MoEHE staff in Gaza added that the coordination inside the schools themselves was sometimes not adequate, with in some cases headmasters and teachers not being aware of any details related to the project.

MoEHE staff in the West Bank was less categorically negative on the issue of coordination between the ministry, contractors and UNICEF. They generally expressed a good level of satisfaction, especially during the needs assessment and implementation phases. They added that there was constant communication between them and that they were always informed of any updates. They however raised some coordination issues at the field level, with one interviewee stating that the coordination was only done with UNICEF and never with the contractor itself.

The contractors for their part found that the coordination between themselves and UNICEF was excellent; they were grateful for the speedy payments and were very positive about their relations with UNICEF engineers. They were less satisfied with the support received from the schools, but they put it on the account of the inadequate period of implementation. Their opinions about the coordination with the MoEHE were overall positive. Besides, one of the interviewed contractor found that there was a lack of coordination between the MoEHE/UNICEF and the school principals, and that in some cases the latter did not relay the needs of the school properly, which meant that those needs were left uncovered by the project.

Bottlenecks of project's scope

Although the field observation shows that the availability of water and sanitation facilities is higher in beneficiary schools than in control schools (e.g. "enough toilet sinks" is good in 40% of cases, excellent in 40%, as opposed to 25% and 16.7% respectively in the control group), and although the various informants were always grateful of UNICEF's support, they all drew attention to the fact that the number of water and sanitation facilities provided/enhanced through the project was still not sufficient to meet all the students' needs (especially considering the annual increase in students' number). MoEHE staff also remarked that some schools which currently are in a very bad situation in terms of water and sanitation were not targeted by the project. This means that the extension of the project is necessary to target additional schools prioritized by MoEHE that are not targeted by the current project.

Project's visibility/Beneficiaries' awareness of implementing/funding actors

There seems to be some lack of awareness on behalf of the beneficiaries, including teachers, about the very fact that the project is actually being implemented by

UNICEF. Some focus groups participants declared that they did not notice any signs indicating that UNICEF was the main implementing agency and some teachers only found out that it was the case during the focus group discussions.

This seems particularly to be the case as far as hygiene promotion activities are concerned: the evaluator noticed indeed that some beneficiaries (students, teachers, health coordinators, school principals) and even some of the interviewed MoEHE staff had difficulties in distinguishing between the awareness-raising activities normally conducted by the schools, and those specifically carried out in the framework of the project under evaluation.

Disability policy

There are recommendations by MoEHE which UNICEF follows regarding disability policy. The disability access has been applied consistently in the WASH in Schools program as one bathroom was constructed for handicapped students in every school that has new infrastructure implemented.

Obstacles linked to external factors

The interviews with MoEHE staff in Gaza Strip drew attention to the negative impact on the project's implementation of the political situation in the Strip: on the one hand the Israeli blockade, which cause a shortage of construction materials and fuel and impacts negatively on the quality of outputs and the duration of works; on the other hand the Fatah/Hamas divide, which complicates the coordination between Ramallah and Gaza and the two ministries.

No major external hindrance was observed in the West Bank.

Another external factor which impinged on the project's implementation is the strikes conducted by the Palestinian teachers union in 2012 and 2013.

4.4 IMPACT OF THE PROJECT

4.4.1 Improved access of schools students to safe drinking water and adequate sanitation and hygiene

In general, and despite the shortcomings identified above, it appears quite clearly that water tankering and construction/rehabilitation of WASH facilities in schools improved access of schools students to safe drinking water and adequate sanitation and hygiene. As stated above, 89.5% of surveyed teachers/health coordinators stated that the project met the students' needs in terms of water and sanitation infrastructures, and both

surveyed students and school personnel were generally satisfied with the output, be they toilets, sinks, water fountains or water provision through tankers, declaring using more frequently the new/renovated facilities (although some students lack confidence in the new facilities and are still reluctant to use them) or experiencing less water shortage.

4.4.2 Impact on the teaching environment

Consistently with the above, 97.7% of the surveyed teachers/health coordinators stated that the project helped in providing a healthier teaching environment. 94.2% of them believed that the students felt the direct positive impact of the project.

4.4.3 Impact on hygiene behavior and practices

95.8% of the surveyed teachers/health coordinators stated that the project contributed to increasing the general hygiene at school. The evaluation highlighted indeed some positive behavioral changes among students.

For instance, while prior to the implementation of the project 50.7% of students used water fountains to wash their hands, including after using the toilets, this figure dropped to 22.4% afterwards (from 66% to 25.3% for boys and from 30.6% to 18.5% for girls).

Celebrations of the Global Hand Washing Day also seemed to impact favorably on school children's hygiene practices, with 93.8% of them declaring that they later applied what they learnt during that day. In particular, 59.3% of students from grades 4 to 7 said they now washed their hands properly with soap, 42.6% said that they cut their nails frequently, and 33.3% said that they had improved their personal hygiene. This appreciative assessment was also expressed in the focus group discussions, where all students agreed that they benefited from the activities performed on that Day, and most asserted that they did implement what they had learnt. Those who admitted they did not explained that it was out of lack personal discipline or negligence on behalf of the parents. According to KAP Survey, 2% of schoolchildren attending the celebrations improved their hygiene practices. Positive judgments were also directed towards the hygiene kits, which were seen by many as a further incentive to maintain good hygiene standards²¹.

The direct observation of students' behaviors in beneficiary schools and their comparison with those of control schools students seems to confirm these positive perceptions (although it is not possible to explain the difference of behaviors on the sole account of the project). Indeed, observers indicated that in beneficiary schools, all students throw toilet papers in the waste basket in 31.6% of cases (as opposed to 16.7% of cases in control schools), all or the majority of beneficiary students flush toilets after

²¹ Information provided by interviewed UNICEFF staff.

usage in 70% of cases (as opposed to 58.3% of cases in control schools), all or the majority of beneficiary students keep the sanitation units clean in 70% of cases (as opposed to 50% of cases in control schools), all beneficiary students wash their hands after using the toilets in 30% of cases (as opposed to 8.3% of cases in control schools), all or the majority of beneficiary students keep the water fountain clean in 65% of cases (as opposed to 41.7% of cases in control schools), and all or the majority of beneficiary students wash their hands before using them to drink water in 45% of cases (as opposed to 33.3% of cases in control schools). Observations related to the rationalization of the consumption of water showed however no sign of behavioral improvement. In any case, even for the other sub-mentioned indicators, the number of students who did not behave in a hygienic way remained high.

In fact, there was consensus among teachers, school health officers and other key informants that a lot remained to be done to inculcate good hygienic behaviors in students, especially males as girls were considered more receptive and more likely to practice good hygiene behaviors. Some teachers suggested instilling these behaviors in students at an earlier age, while others reiterated the importance of reinforcing these behaviors at home by involving further the families. Some suggested approaching the topic by discussing the religious importance of cleanliness. Another teacher noted that when students attained the age of puberty, focusing on the importance of cleanliness on physical appearance and attractiveness could prove successful.

Another serious challenge mentioned by school personnel in the focus group discussions, with direct impact on the project's sustainability, related to the damages caused by students themselves on the new/rehabilitated WASH facilities. Again there were some suggestions, like having a competition where each class would be responsible for the maintenance of a restroom and the class with the cleanest restroom would get an award. Teachers from boys' schools focused more on punishments to deter negative behaviors. In fact, according to the participants, this kind of problems was generally restricted to boys' schools.

4.4.4 Disruptions caused by construction/rehabilitation works

Although 84.9% of surveyed students reported that the project implementation did not cause them any kind of discomfort, the answers to the same question by principals and teachers/health coordinators got a lower rate of satisfaction, with only 60% of the former and 69.1% of the latter declaring that the project did not cause any disturbances.

In fact, focus group discussions highlighted that schools where construction works took place during school time face a number of nuisances, including:

- Noise
- Bad smells

- Dust and sand
- Debris not removed after completion of building/rehabilitation works
- Destroyed infrastructure (e.g. school fence) not repaired after completion of works
- Inaccessibility of old toilets because of their closure or because of the presence of workers
- Overcrowding of remaining toilets due to the absence of alternative toilets (some informants said that they were supposed to receive mobile toilets for the duration of the works but it did not happen)

As a consequence, students had in some cases to go and find toilets outside the school.

4.4.5 Safety hazards

While 75.2% of surveyed students, 78.6% of teachers/health coordinators, and 75% of schoolmasters declared that the contractors took into account safety measures (placing barriers preventing students from accessing the work area and boards signaling the works and providing safety instructions); focus group discussions expressed various recriminations on that regard, such as the absence of written warnings or security barriers.

4.4.6 Environmental impact

In the Gaza focus group discussion, school staff indicated that trees in the courtyard were cut down to make space for the new sanitation units.

4.4.7 Impact on enrollment and attendance especially for girls

Given the context and already high enrollment rates especially for girls, it is important to mention that it is not realistic to measure the impact of current project activities on the enrolment rate as this could be achieved by the long term effects of the project.

It is worth mentioning that in order to be able to judge the intended increase of students' attendance to the schools, there is a need to have accurate computerized records in schools documenting attendance and absenteeism and their causes, and since there was a difficulty in obtaining this information, this goal cannot be verified systematically.

From the results of the FGDs, students and teachers emphasized that in the past, there were very few cases of girls students absentees due to lack of suitable toilets, but after

the implementation of the project until the moment of the interview, they did not notice the absence of students because of the inadequacy of toilets.

4.5 Sustainability of the Project

Sustainability is one of the direct expected results of the project (cf. Result 2. 'Improved operation and maintenance mechanisms in targeted schools to ensure sustainable WASH facilities'). This result was planned to be achieved through the development with MoEHE of clearly defined operation and maintenance plans to ensure that rehabilitated and upgraded WASH facilities are kept clean and operable and that adequate soap and hygiene supplies are available; and through the research of other sustainability mechanisms, including the piloting of a feasibility study for solar distillation technology use in Palestinian schools.

The evaluation team observed that ensuring the sustainability of the project is indeed a major challenge:

4.5.1 Maintenance of the new water and sanitation infrastructure

The field observation shows a higher level of cleanliness of water and sanitation facilities in the beneficiary schools as opposed to the control group ones. This difference in favor of beneficiary schools was confirmed for details such as absence of bad smell, usability of toilets, cleanliness of water fountains, etc.

That said, due to the above-mentioned factors (e.g. lack of follow-up on contractors' work, scarcity of good building materials, insufficiency of hygiene and cleaning supplies, limited budget, damages caused by students themselves, etc.), some of the new/renovated water and sanitation units, according to the various beneficiaries, are already in need of repair or are suffering from a lack of cleanliness.

Another burden placed on the new water and sanitation facilities is their insufficient number, which may cause an extra strain on the existing structure in addition to continuous congestion and overcrowding. Most of the respondents indeed indicated that the water and sanitation units provided by the project were short of matching the needs of the growing student population.

At stake here is the question of financial sustainability of the project, since as noted by some informants, repairs and maintenance of new water and sanitation facilities can pose a significant financial burden for those schools which do not have sufficient funds

to dedicate to maintenance (as is the case for 41.7% of schools according to the principals' survey²²).

4.5.2 Hygiene and cleaning supplies

UNICEF latest progress report indicates that a total of 132 schools (72 in WB and 60 in GS) in 2012 and 30 schools in WB in 2013 received cleaning material to cover the deficit in schools' budgets for hygiene tools and cleaning supplies.

From the various fonts of information, it seems that these supplies are not sufficient. The survey of beneficiary students shows for example that only 18% of them think that toilet paper was available on a regular basis, 25% said it was not, and 54.7% said that there had never been toilet paper. The same observation can be made as far as soap is concerned, with 31% of students thinking that there was not enough soap available in the toilets, and 29.3% saying that there had never been enough soap.

This fact was confirmed by the focus group discussions, with students declaring that toilet paper is never available. School personnel indicated that schools could not afford to buy new supplies once the ones provided by UNICEF ended due to budget limitations.

4.5.3 Development of maintenance plans and policies at the ministry and schools level

The principals' survey revealed that 45.5% of schools do not have any plan for the maintenance of the schools water and sanitation infrastructure (90% of Gaza schools).

UNICEF's work in this field is ongoing: the second progress report indicates that a number of meetings with MoEHE directors of School Health, the Building Construction, as well as with engineers from MoEHE have been hold to agree defined operation and maintenance plans to ensure sustainability of the upgraded WASH facilities. Interviews with UNICEF staff indicated also that the organization has presented a number of recommendations to the ministry to help it formulate a clear national policy on the issue of WASH in schools. The PA Ministry of Finance has been involved in all the discussions as it is the ultimate decision-maker on the allocation of funds for maintenance work.

In addition, according to UNICEF's staff, the organization pursues its efforts after the completion of construction/rehabilitation works by establishing a maintenance warranty with contractors for a duration of one year, and by conducting field visits to the targeted schools after one year from project completion to evaluate the general

²² The results show that 100% of Gaza schools declared having a sufficient budget for maintenance. Further investigation explained this figure by the fact that principals here referred to minor maintenance works since in any case they need to get approval from the ministry for bigger ones.

condition of the facilities and have the contractors undergo the necessary maintenance work.

In the opinion of UNICEF staff, there is still efforts are needed to ensure the sustainability of the project, mainly because of the scarcity of financial resources which can be allocated to maintenance by the ministry of Finance (in the light of the PA current budgetary difficulties, with the most urgent priority being to ensure the payment of public servants' salaries).

4.6 Constraints (Bottlenecks)

Table 3 summarizes the bottleneck areas influencing the fulfillment of improving WASH facilities.

Table 3: Summary of program bottlenecks

	Determinant areas influencing the fulfilment of improving WASH facilities	Description of bottlenecks and barriers
Needs assessment for WASH facilities	Involvement in setting the priorities/needs	Lack of teachers/health coordinators in Gaza in setting the priorities/needs
Fieldwork enabling environment	Schools' databases	<p>Lack of a recently updated, comprehensive, summary/database of all the beneficiary schools</p> <p>Lack of a recently updated list of activities implemented so far</p> <p>Lack of consistency in schools names</p> <p>Discrepancy between the activities mentioned in the database provided by UNICEF and the reality on the ground</p>
Water and Sanitation facilities	Availability of Water and Sanitation facilities	<p>Number of water fountains is still not sufficient in their schools.</p> <p>Covers to protect the drinking fountains from insects are still not sufficient</p>

		<p>Insufficient number of water fountains</p> <p>Insufficient number of water toilets</p>
	Operation and maintenance	<p>Some of the new/renovated water and sanitation units are already in need of repair or are suffering from a lack of cleanliness.</p> <p>Lack of plans for the maintenance of the schools water and sanitation infrastructure</p>
	Budget/expenditure for the operation and maintenance	<p>Weaknesses in financial management skills and systems</p> <p>Lack of the participation of local community including women</p> <p>Weak coordination in cost-sharing arrangements between communities, government, civil society organizations, and donors.</p> <p>Repairs and maintenance of new water and sanitation facilities can pose a significant financial burden for schools</p>
Contracting	<p>Prices</p> <p>Time between contract awarding and start of the works</p>	<p>Giving inaccurate prices by some contractors to lower the total price quote</p> <p>Long time in some projects and allowed for many changes to occur</p>
Implementation processes	Final check-up of completed work	Postponing the final check-up of completed work by some contractors
	Sanitation alternatives during the construction stage	In most cases no sanitation alternatives were provided during implementation
	Timing	Unsuitability of timing of the construction/rehabilitation works itself was judged
	Follow up of implementation	Lack of follow-up on the contractors' work by PAH in some locations

	Safety measures	Lack of safety precautions and procedures taken by contractors
	Management/coordination	Weak coordination of referrals
Hygiene awareness	Social/cultural practices	The use of some students of their mouth directly on the spout
		Some students throw papers and garbage in the fountains
	Involvement of the communities	The lack of involvement of the communities with regards to the hygiene promotion activities
Supply	Availability of essential construction materials/ inputs	<p>Shortage of cement and aggregate as a result of the blockade in Gaza</p> <p>Inadequate course materials for construction in Gaza</p> <p>Poor response and high cost of bidding</p>
	Availability of essential cleaning materials	Insufficient cleaning material at schools
External factors	Political situation in the Strip	Israeli blockade which cause a shortage of construction materials and fuel
	Strikes	<p>Fatah/Hamas divide, with complicates the coordination between Ramallah and Gaza and the two ministries</p> <p>Strikes conducted by the Palestinian teachers union in 2012 and 2013 impinged on the project's implementation is the</p>

5. Conclusion and Recommendations

5.1. Conclusions

The following conclusive observations can be made by the evaluation team on UNICEF 'Wash in Schools' project as it has reached its mid-term phase towards completion:

5.1.1 Relevance

The evaluator observed that the project is highly relevant and is considered a priority by all the various beneficiaries (students and school staff) and stakeholders (MoEHE). It addresses urgent and vital needs of the targeted groups, and is in line with MoEHE's goals, priorities and approach.

5.1.2 Effectiveness

In general, the project attains its objectives related to the component 'rehabilitation/construction of WASH facilities', as illustrated by a rather high level of satisfaction on behalf of beneficiaries, who indicated that the project helped in diminishing the water and sanitation problems faced at the schools and was overall beneficial, bringing about better infrastructure, more cleanliness, and less crowding. In addition, it appears that the project matches the specific needs of girls.

The project's intervention in the area of 'provision of safe drinking water through water tankering' was also positively implemented, with beneficiaries indicating a general improvement of the provision of safe drinking water.

The appraisal is also overall positive as far as the 'hygiene promotion training campaigns' component is concerned. In particular, although a variety of education activities on hygiene, health and the protection of the environment occur on a regular basis in both beneficiary and non-beneficiary schools, the comparison between the two groups showed that a wider range of topics are addressed in the former, especially when grades 4, 5 and 6 are taken into consideration (the age group most targeted by the hygiene promotion component). This is particularly true about subjects related to hand washing and toilets use. Besides, the feedback on the activities organized on the occasion of the Global Hand Washing Day by those who participated in the event was positive, with students saying that these activities helped them improve their knowledge and practices of good hygiene behaviors. Similarly, the hygiene kit provided to some of the neediest students was assessed favorably by both students and teachers/health coordinators, who judged it useful and a good incentive to maintain proper personal hygiene standards. A further positive achievement of the project is UNICEF hygiene

promotion manual for grades 1 to 4, finalized in November 2013, which was described as comprehensive, detailed and useful. The workshops organized by UNICEF to foster a correct use of the manual were also deemed beneficial. As for the ToT trainings of two MoEHE employees, they have not conducted to the organization of further trainings of teachers and schools health committee members but were beneficial in that the two trained employees used their newly acquired skills when interacting with these persons.

That said, several informants reported the fact that no instructions and sensitization activities were conducted specifically on how to maintain the cleanliness of the toilets and other built/rehabilitated water and sanitation facilities, or on how to use them properly, and that more educational and awareness-raising activities were needed on topics not usually addressed by schools.

In spite the fact that there is a high level of satisfaction on behalf of beneficiaries regarding the rehabilitation/construction of WASH facilities', it was found that the number of implemented rehabilitation/construction of WASH facilities within the schools were inadequate, for example the number of fountains in 80% of the targeted GS schools for males and females was insufficient compared to the Palestinian and international standards. The same applies for the WASH facilities in the Palestinian schools such as insufficient number of toilets (below recommended standards. There is a great inequality in availability of WASH school facilities, especially between the West Bank and Gaza.

5.1.3 Efficiency

The tools adapted for project implementation are reasonably efficient in realizing project objectives and the project staff understands them. The WASH in schools strategy of UNICEF and its specific performance on the project under evaluation was deemed particularly efficient by some stakeholders, who praised in particular the organization's integrated and comprehensive approach (both construction/rehabilitation/maintenance of water and sanitation facilities and hygiene education), its efforts at building and strengthening partnerships with local communities and the ministry, its attentive follow-up and quality orientation, and a higher level of organization, coordination and trust with the ministry and the schools compared to previous years.

Nonetheless, some informants indicated a number of shortcomings and limitations in the implementation of the project and organizational performance of the implementing actors. These included:

- ~ Unreliability of the school database provided by MoEHE, which impacted negatively on the pre needs assessment

- ~ Delay between the contract awarding and the beginning of the works, with consequences on the accuracy of the initial needs assessment and the cost of building materials
- ~ Insufficient involvement of the communities and project beneficiaries in the needs assessment and hygiene promotion activities
- ~ Inappropriateness of the timing and duration of construction/rehabilitation works, which caused disturbances for students and school staff. Indeed, although UNICEF initial time schedule was that on-site work would take place mainly during school holidays, the works were deferred (essentially because of the delayed tendering process in 2012 and the shortage of building materials as a result of the blockade in Gaza) and in many cases took place during school hours
- ~ Contractors' performance and follow-up: some informants declared that some contractors were not being reliable, not respecting the agreed-on time span, not taking the necessary safety precautions, working in a fractionated way, generating defective and sometimes unusable final products, and on some occasions not adhering to the initial engineering plan. A lack of follow-up on behalf of UNICEF and its implementing partners on the contractors' work was also pointed at
- ~ In certain cases and due to the limited amount, contractors used poor quality building material, mainly in the Gaza Strip in reason of the Israeli blockade, with bad consequences on the final outputs
- ~ Difficult coordination between the various parties in certain times (contractors, UNICEF, MoEHE, and the schools)
- ~ Limitation of the project's scope (insufficient number of WASH facilities built/rehabilitated compared to the actual needs,²³ few educational and awareness-raising activities on some necessary topics such as maintenance of water and sanitation facilities)
- ~ Lack of visibility/awareness of beneficiaries of the project (especially as far as the hygiene promotion component is concerned, with some respondents having difficulties in distinguishing between those normally conducted by the schools, and those specifically carried out in the framework of the project) and of its implementing/funding actors.

In addition to the above, it was noted that some external factors impinged on the project's implementation, particularly the Israeli blockade, which cause a scarcity of construction materials, the complicated coordination between Ramallah and Gaza, and the repeated strikes conducted by the Palestinian teachers union.

²³ N.B.: The fact that some beneficiaries indicate that the number of water and sanitation facilities in their school is not sufficient can be accounted on the fact that their schools benefitted only from the rehabilitation of existing units (as opposed to the construction of new ones).

5.1.4 Impact

In general, it appears that the water tankering and WASH facilities construction/rehabilitation improved the access of schools students to safe drinking water and adequate sanitation and hygiene; with high percentage of beneficiaries stating that the project met the students' needs and that they were now using more frequently the new/renovated facilities. Consequently it is possible to affirm, as did 97.7% of the surveyed teachers/health coordinators, that the project helped in providing a healthier schooling environment.

The hygiene message has been taken up by both students and teachers and improvement in general cleanliness at schools is clearly visible. The school children already have a high level of awareness of hygiene issues and are eager and keen to discuss hygiene issues. Although the positive behavioral changes among students was highlighted and collected various assertions from beneficiaries that this was indeed the case, there was consensus among teachers, school health officers and other key informants that additional effort remained to be done to inculcate good hygienic behaviors in students, including respect for the good state and cleanliness of new/rehabilitated WASH facilities. In addition, there are positive indicators of project's impact on the attendance and enrollment. It is true that there are some complaints from the student, but it is expected that after the distribution and use of the UNICEF hygiene manual, the number of complaints from students will be reduced.

5.1.5 Sustainability

Ensuring the maintenance of the new water and sanitation infrastructure and a sufficient amount of cleaning and hygiene supplies such as toilet paper and soap is a major sustainability challenge of the project, essentially due financial aspects as the school budget is limited and cannot afford such expenses.

In addition to conducting field visits to the targeted schools one year after the completion of the project and having the contractors undergo the necessary maintenance works (as per the agreed-on one-year maintenance warranty), MoEHE is currently working on the development of maintenance and sustainability plans and policies at the ministry and schools level.

5.2. Recommendations

Based on the shortcomings and challenges identified during the mid-term evaluation of the 'WASH in School' project and the suggestions for improvement made by the various informants and stakeholders²⁴, the evaluator would like to recommend the following to UNICEF and its partners:

5.2.1 Possible solutions to the disturbances caused by infrastructure works

- Better coordinate with the school personnel to arrange work schedule
- Conduct works after school hours or during holidays
- Provide alternative sanitation units during works or make sure the old ones are usable until the new ones are ready
- Improve follow-up of contractors' work
- Enhance health and safety precautions by providing clear guidelines to contractors and a budget allocated for that purpose

5.2.2 Possible solutions to other efficiency shortcomings

- Enhance MoEHE's schools database as it is essential to conduct a realistic pre needs assessment
- Make sure that the needs of the schools are properly identified and transmitted to UNICEF
- Improve cooperation between all stakeholders, including by holding regular meetings and defining clearly the role of each party
- Assign a representative from the MoEHE Department of School Health Coordination as the key contact person for coordinating between the different stakeholders (schools, UNICEF, MoEHE and contractors) and providing updated information on the project and its implementation status
- Shorten the contracting process in order to start the sanitation works immediately after the needs assessment
- Improve the contracting process by making sure that the selected contractors have enough experience as well as material, human and financial resources to conduct the assignment. Give higher importance to the technical aspects of the proposal than to the financial ones. Make available an Arabic version of the contract.

²⁴ Informants were specifically asked, in both qualitative and quantitative research approaches, to suggest any recommendations for enhancing the effectiveness and efficiency of the project).

5.2.3 Possible solutions to problems of sustainability

- Conduct more awareness-raising activities for students on the proper way to use, maintain and keep clean water and sanitation facilities, this includes:
 - i. Take advantage of special events at school or in the community to increase people's awareness.
 - ii. Participation of students in art classes in drawing boards that reflect the hygiene and cleanliness of water and sanitation facilities.
 - iii. Assigning students from different grades to participate in the morning call of the school
- Limit damages to infrastructure caused by students by incentives (e.g. organizing competitions for cleanest restrooms) or deterrence (e.g. asking students to clean in turns, asking families to pay for repairs)
- Augment the quantity of sanitation units and water tankers
- Augment the quantity of hygiene²⁵ and cleaning supplies
- Assist school administrators in finding financial resources to ensure maintenance and cleanliness of facilities
- Use higher quality building materials
- Reinforce contractors' accountability and follow-up more systematically on their works, including by making sure the engineering team follow-up during the works, collecting stakeholders' appraisal of contractors' work and blacklisting unreliable ones, etc.
- Establish separate water fountains to reduce crowding
- Train janitors to better clean the toilets and monitor students' behavior (e.g. preventing them from smoking inside the toilets, taking names of students who do not respect the facilities, etc.)
- Assist schools in developing efficient WASH maintenance plan

5.2.4 Possible solutions to foster positive behavioral change

- Start hygiene promotion at an earlier age
- Focus awareness-raising activities on those topics not usually addressed by schools teachers and health committees
- Make sure that UNICEF hygiene promotion manual is widely used
- Involve further the students, their families and the local communities (including spiritual leaders) through participatory approaches (for needs identification,

²⁵ The use of liquid soap (as opposed to solid soap) was recommended to enhance trust of students in its cleanliness and therefore augment its use in hand-washing.

problem-solving, decision-making, design and attendance of awareness-raising activities, maintenance activities, etc.)

- Develop awareness-raising approaches adapted to different categories of children and adapted to the local context (e.g. discussing hygiene from a religious perspective, or insisting on the link between cleanliness and attractiveness for teenagers)
- Collect feedback from parents to assess the impact of hygiene promotion activities on children
- Make hygiene and environment education part of a daily compulsory class
- Facilitate networking, cooperation and exchange of good practices on hygiene promotion between teachers/health coordinators from different schools (even different countries)

5.2.5 Possible solutions to the insufficient number of water and sanitation units

- *Increase the number of water and sanitation units according to the Palestinian standards.*
- *Revise the Palestinian standards and benefit from the international ones.*

6. Annexes

- ~ Annexes 1 to 13: Data collection instruments targeting the various informants (students, teachers/school health coordinators, schools principals, contractors, UNICEF and MoEHE staff)
- ~ Annex 14: List of sampled schools
- ~ Annex 15: List of participants in the in-depth interviews