Evaluation of the Swiss Water and Sanitation Consortium (SWSC) Signature Approach Blue Schools Based on Project Implementation in Cambodia, Ethiopia, and Madagascar

Final

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2 Abbreviations

ASEAN	Association of Southeast Asian Nations
BSA	Blue Schools Approach
CACH	Caritas Switzerland
CapEX	Capital Expenditure
CISCO	Circonscription Scolaire (niveau district)
DEMC	Direction de l'Education de Masse et de Civisme
DEFPE	Direction de l'Education Fondamentale et de la Petite Enfance
DoE	District Office of Education
DORCAS	Daughter of Righteousness Covenant and Service
ERSHA	Enhanced Rural Self-Help Association
EoL	Essence of Learning
FACET	Facility Evaluation Tool
FFMOM	Moral and Civic Education (Madaascar)
HEKS/EPER	Swiss Church Aid, the aid organisation of the Protestant Churches of Switzerland
JMP	Joint Monitoring Programme
M4edu	Management4 education GmbH
m4h	Management4health GmbH
NGO	Non-governmental organisation
MEN	Ministère de l'Education Nationale
MEAH	Ministère de l'Eau, Assainissement et Hygiène
MEDD	Ministère de l'Environnement et du Développement Durable
MHM	Menstrual Hygiene Management
MoE	Ministry of Education
MoEYS	Ministry of Education, Youth and Sport
MRD	Ministry of Rural Development
OpEX	Operational Expenditure
OSC	Organisation de la Société Civile
O&M	Operation and Maintenance
PoE	Provincial Office of Education
PGE	Politque Générale de l'Etat
RWST	Rural Water and Sanitation Team
SEADO	Social Environmental Agricultural Development Organisation
SHD	School Health Department
SLC	Structure locale de concertation en Eau, Assainissement et Hygiène
SOF	School Operational Funds
SSAS	Service de Santé et Alimentation Scolaires
STEAH	Service Technique Eau, Assainissement et Hygiène
SWSC	Swiss Water and Sanitation Consortium
TWG	Technical Working Group
WASH	Water, Sanitation and Hygiene
WHO	World Health Organisation
WinS	WASH in Schools
UNICEF	United Nation Children's Fund
ZAP	Zone d'apprentissage pédagogique (niveau commune)

3 Executive Summary

The Swiss Water and Sanitation Consortium (SWSC) is a collaboration of eight Swiss organisations, co-financed by the Swiss Agency for Development and Cooperation (SDC). The consortium has been implementing a Water, Sanitation, and Hygiene (WASH) programme in Africa and Asia since 2011. During this time, they piloted the Blue Schools approach, which was created by the International Rainwater Harvesting Alliance in 2005. Subsequently, the Blue Schools Kit was developed, and it became a signature approach of SWSC. The Blue Schools approach was implemented in nine countries, including Benin, Burkina Faso, Cambodia, Ethiopia, Madagascar, Nepal, Niger, Sudan, and Uganda.

The Blue Schools approach aims to create healthy and eco-friendly school environments by addressing basic water, sanitation, and hygiene needs, as well as integrating menstrual hygiene management, school gardening, solid waste management, and environmental activities. It is guided by five principles that promote school learning, reduce absenteeism due to hygiene-related illnesses, stigmas, taboos and raise awareness about hygiene and the environment in surrounding communities.

According to the online data[1] collated from SWSC global programmes, as of November 2023, schools have shown significant progress at output-level in improving their WASH components and non-WASH components like school gardening and the environment. It's worth noting that JMP service levels are used for measuring WASH levels, while SWSC service level criteria levels are used for non-WASH components.

This study aimed to externally validate the positive trend of Blue Schools Approach in achieving basic service levels in WASH and non-WASH components in Phase III (2020 - 2023). Furthermore, through in-depth study of Cambodia, Ethiopia, and Madagascar, where SWSC observed significant involvement and progress, researchers aimed to collect evidence that demonstrates the relevance and value of the Blue Schools. Using focus group discussions and key informant interviews, the study team interviewed people primarily from national and sub-national governments, schools, community groups and the local and national implementing partners. Researchers observed 16 schools and 18 households from surrounding communities between February and June 2023. The researchers then collated and analysed the responses under a conceptual framework, validating them with literature and policy reviews and quantitative data from SWSC online sources, project teams and government officials. Researchers utilised quantitative data to support their findings, as seen in the enrolment data gathered from schools in Ethiopia and Madagascar, or the costing data provided by project teams.

Synthesis of Country Findings

The evidence collected from country studies supports the DAC[2] criteria of effectiveness, efficiency, coherence, and relevance of the Blue Schools approach in improving both WASH and non-WASH components. The researchers observed that all schools have progressed from limited to basic service levels in WASH components and from no service to basic service in non-WASH components, and in the case of Cambodia, advanced service levels were achieved in water supply and sanitation owing to water quality testing, and treatment of water supply and wastewater.

The study found that the Blue Schools approach was highly relevant to the primary needs of schools. The approach was flexible and could be adjusted to meet the specific needs of schools and communities. It was also found to be coherent and aligned with national policies and education plans.

The study identified **critical enabling factors and prerequisites** for ensuring effective implementation in schools. These factors include having a well-defined policy guidance on WinS within the Education sector, the need to operationalise the policy guidance for the school context, the presence of decentralised education government departments to work with, and the deliberate action to implement through sub-national government structures. Additionally, as an enabling factor, the study found that the monitoring and reporting should be linked to education sector to foster accountability, incentivise, or accredit Blue Schools' achievements at the school and district levels.

[1] Online data refers to the SWSC collated data in Microsoft Power Bi- which collates the semi-annual reports from project teams.

[2] The Evaluation Criteria of the OECD DAC Network on Development Evaluation (EvalNet) are relevance, coherence, effectiveness, efficiency, impact, and sustainability. (https://www.oecd.org/dac/evaluation/)

The bespoke implementation of the Blue Schools approach was effective in achieving objectives and leveraging additional resources from communities and the government. The approach has shown that it can generate income, improve sanitation and hygiene behaviour, integrate into school subjects, and retain girls in the schools visited. The government and schools appreciate the Blue Schools approach as it permits them to use their available resources without any conditions to co-finance activities beyond what is available. The study found that external risks, such as climate and extreme weather occurrences hinder the implementation in all schools.

In the communes in Cambodia and Madagascar, and kebeles in Ethiopia, **sustainability of outcomes** is evidenced by the willingness of local government and schools to provide or allocate funds for operation and maintenance and explore resource mobilisation activities with local administration. For instance, the commune of Amboropotsy in Madagascar committed a modest annual budget of 100,000Ar (CHF 23) per school to maintain the results, setting a benchmark for other communes to follow. Sustainability is further supported by the inclusion of Blue Schools components in the school and some local government plans.

In all countries, teachers resoundingly appreciated the **learning-by-doing approaches** as it kept students attentive, imparted information quickly through storytelling, and life skills and aided in their understanding of topics related to science and mathematics. The **practical demonstrations, such as school gardens, solid waste management or MHH rooms**, expedited replication, and innovations from school to community and to other schools not directly targeted by SWSC projects. School visits facilitated by the education officials in Cambodia and Ethiopia and pedagogical or learning days in Madagascar were examples and opportunities within the education sector to share the approach and encourage replication. A good outcome is from Ethiopia, where district officials replicated some Blue Schools components to 18 other schools in the Angolelana Tera district and eight schools in the Kofele district.

The transfer of knowledge and ideas from school to the community was found to be facilitated by children, especially in Ethiopia and Madagascar, where it was an intentional objective and community participation in school management is high. The study analysis concluded three essential elements that can help children to replicate good practices and become agents of change. These include:

1. Schools that have a **deliberate and dedicated focus on community outreach** with their students.

2. A strong involvement of the **community in school management**.

3. A **community project component** in close proximity to the school, where project activities in the community reinforce what is being taught in school.

Apart from the physical structures, the study noted that MHH components have **changed the invisible forms of stigma and taboos around menstruation**. Girls and boys in Ethiopia and Madagascar Blue Schools speak more freely about menstruation, and parents supported the construction of MHH facilities, sanitary pad purchases or pad-making in schools.

There are **many entry points for advocacy for the Blue Schools approach**; and some are currently underway via exchange visits with neighbouring schools and government officials. The implementation of activities with district education offices and in the case of Cambodia provincial level has been a good starting point, as these officials can now advocate for the approach within their circles. A future advocacy strategy should be focussed on increasing the visibility of the approach with higher-level national sectoral officials and local government. Sharing evidence of the approach's values and processes will help national authorities set standards that schools can achieve with local resources especially on non-WASH components, encourage adaptations, and include gender, solid waste management, and environmental aspects especially in the face of climate risks.

An important observation was the **vital role of project teams** in contextualising the Blue Schools approach. They sought means to involve local authorities in implementation and worked to match project resources against the needs of the schools. The project teams interviewed in this study saw their roles as facilitators over implementors. However, where there is low capacities or weak systems, project teams are called upon to do traditional implementation roles. As an example, project teams directly trained teachers instead of working with the relevant teacher training authorities.

Main recommendation for Phase IV and Systems Strengthening

Researchers in the three countries have found that Blue Schools approach is being implemented with sub-national educational partners and meeting national sectoral priorities. However, these activities are not yet integrated into the actual government systems, or structures. SWSC implementing partners are still working within a limited scope, mainly sub-national, in some areas independently or without awareness of the government system and processes. For example, while the Blue Schools approach provided financial and human resources and training, the monitoring and reporting of these activities were not systematically integrated into government monitoring nor reporting. This means that the Blue Schools approach is potentially outside the scope of the government's accountability.

Hence, the study found that the **approach has yet to be sufficiently integrated or mainstreamed** into sub-national implementation or institutional arrangements or structures**, except for Cambodia**. To build further logic for this finding, Christine Jia Rui Pu et al. (2022) propose that three necessary conditions are required for sustainable systems for WASH in schools: resources, information, and accountability. While the first two conditions were observed in Blue Schools through infrastructure and training, **accountability** was less prevalent. Under the enabling environment matrix, it was expressed in weaknesses in implementation arrangements and monitoring and evaluation. A key recommendation for the next phase is to focus on **establishing and strengthening accountability systems** by working more closely with government structures for greater ownership which may even unlock financial and human resources.

In order to strengthen a system, it is crucial to understand what needs to be maintained, the bottlenecks or challenges, and the competencies of the partners involved. This requires consultations, mapping out different administrative levels, and identifying which stakeholders are strategic to the mainstreaming of Blue Schools. However, this is a complex task and may go beyond the current capacities of project teams, as highlighted by respondents in Madagascar and Cambodia. Therefore, a case-by-case solution for system strengthening and establishing accountability are necessary. The project teams must be at the centre of the solution’s development, and the process must maintain flexibility for each context, just as the Blue Schools approach does.

4 Introduction

4.1 Assignment

Phase III of the Swiss Water and Sanitation Consortium (SWSC) WASH programme (2020-2023) prioritises the implementation of WASH in schools and healthcare facilities as an entry point. This phase aims to assess the effectiveness of the signature approaches, Blue Schools, and WASH in Health Care Facilities, in delivering results and identify the optimal processes for implementation. The Consortium Management Unit (CMU) of the SWSC commissioned this research study on Blue Schools to gather and establish evidence regarding the effectiveness of the signature approach to support schools in improving water and sanitation services and integrating environmental education. The study has the following objectives:

- To collect evidence to demonstrate the relevance and value of the Blue Schools approach in strengthening the education system.
- To highlight and document lessons learned and good practices regarding the methodologies and processes employed in these projects.
- To provide insights and recommendations to inform future phases of SWSC programming.

The CMU identified three projects in Cambodia, Ethiopia, and Madagascar that demonstrated significant progress in implementing the Blue Schools approach for the study. The in-country research collected human interest stories, identified critical factors for success, and offered recommendations that can support, and guide future programming initiatives related to the Blue Schools approach. The CMU wanted to answer the following questions, as presented in the analysis and recommendation sections of this report:

- What prerequisites need to be in place to support successful implementation?
- What processes and conditions enable success? How, why and who helped them?
- What adaptations need or have been made by the project teams to support system strengthening?

4.2 Blue Schools Approach

The Blue Schools approach is a signature approach of the SWSC, pioneered in 2007 by the International Rainwater Harvesting Alliance (IRHA) and the Swiss Agency for Development and Cooperation (SDC) in Latin America. Following this, SDC compiled a factsheet on the Blue Schools concept that inspired SWSC project teams to pilot Blue Schools concept in more than 200 schools in Bangladesh, Benin, Ethiopia, Madagascar, and Nepal from 2011 to 2017. Multiple organisations working with local partners have adopted and implemented this concept. The SWSC partners refined and extensively documented the concept in the form of the Blue Schools Kit through a joint learning process in 2017 and 2018. Phase III, from 2020 to 2023 aimed to gather evidence of success and effectiveness, including financial viability for scaling up. One hundred and eighty-four (184) schools to date have been engaged in the Blue Schools approach.

In the upcoming Phase IV of the SWSC implementation (2023 – 2027), one key focus regarding Blue Schools will be strengthening systems and clarifying stakeholder roles within the school-specific context. Lessons learned from previous phases have highlighted the critical aspects of water availability, effective sanitation operation and maintenance plans, addressing menstrual hygiene taboos, creating supportive environments, promoting sustainable solid waste management, and fostering behavioural change.

Phase IV aims to achieve a shared understanding among project staff, increasing demand from local governments and stakeholders, enhancing uptake among SWSC partners, instigating mindset shifts within project teams, developing master trainers, and exploring opportunities for scaling up through external organisations. This study yields valuable evidence to support these objectives.

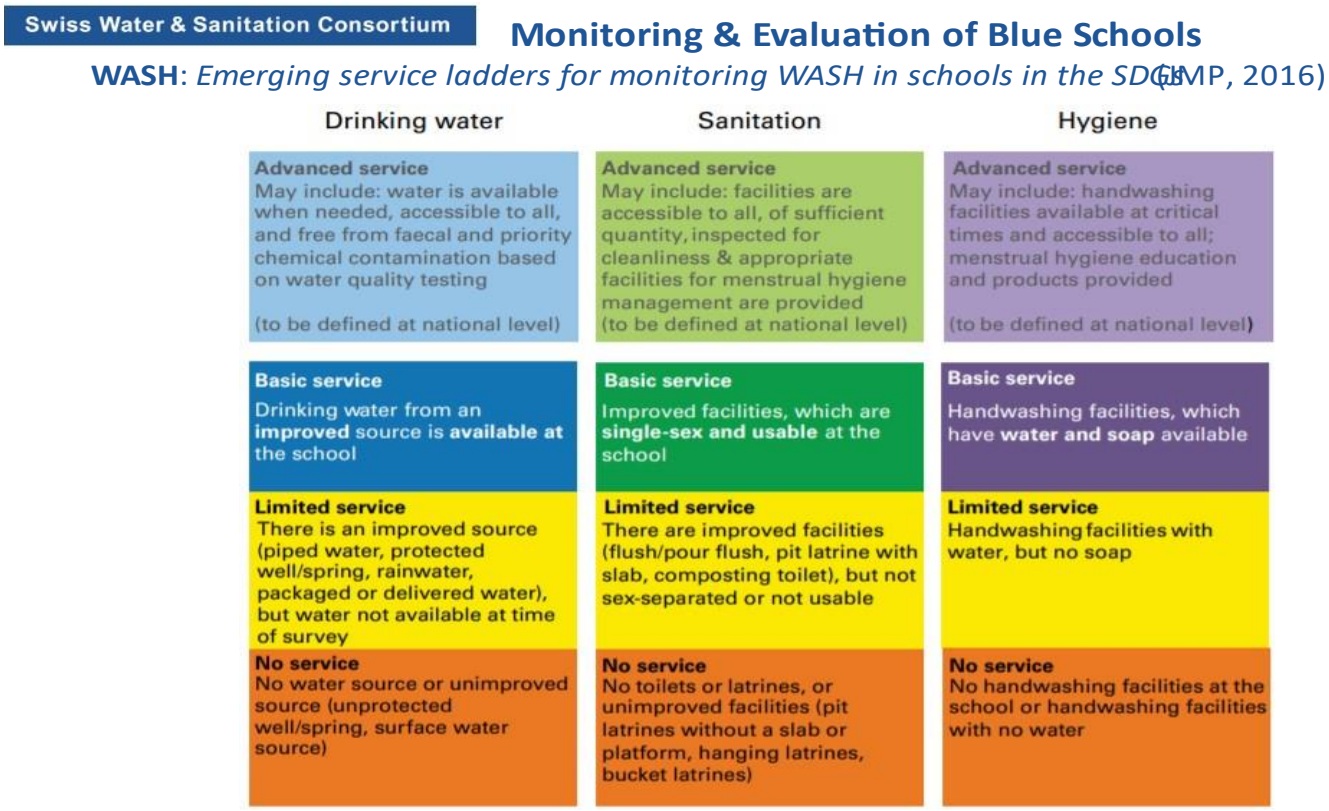
4.2.1 Objectives

The core objective of the Blue Schools approach is to establish healthy and environmentally friendly school environments by addressing water, sanitation, and hygiene needs as a starting point. It integrates menstrual hygiene management, school gardening, solid waste management, and environmentally friendly practices to raise awareness and promote sustainable environmental management among students, teachers, and the broader community. Students are seen as change agents who practice good hygiene, utilise safe water and sanitation facilities, engage in gardening and waste management activities, and adopt eco-friendly behaviours.

The Blue Schools approach has seven service-level components, as defined by SWSC to create a healthy and environmentally friendly school environment. The components include:

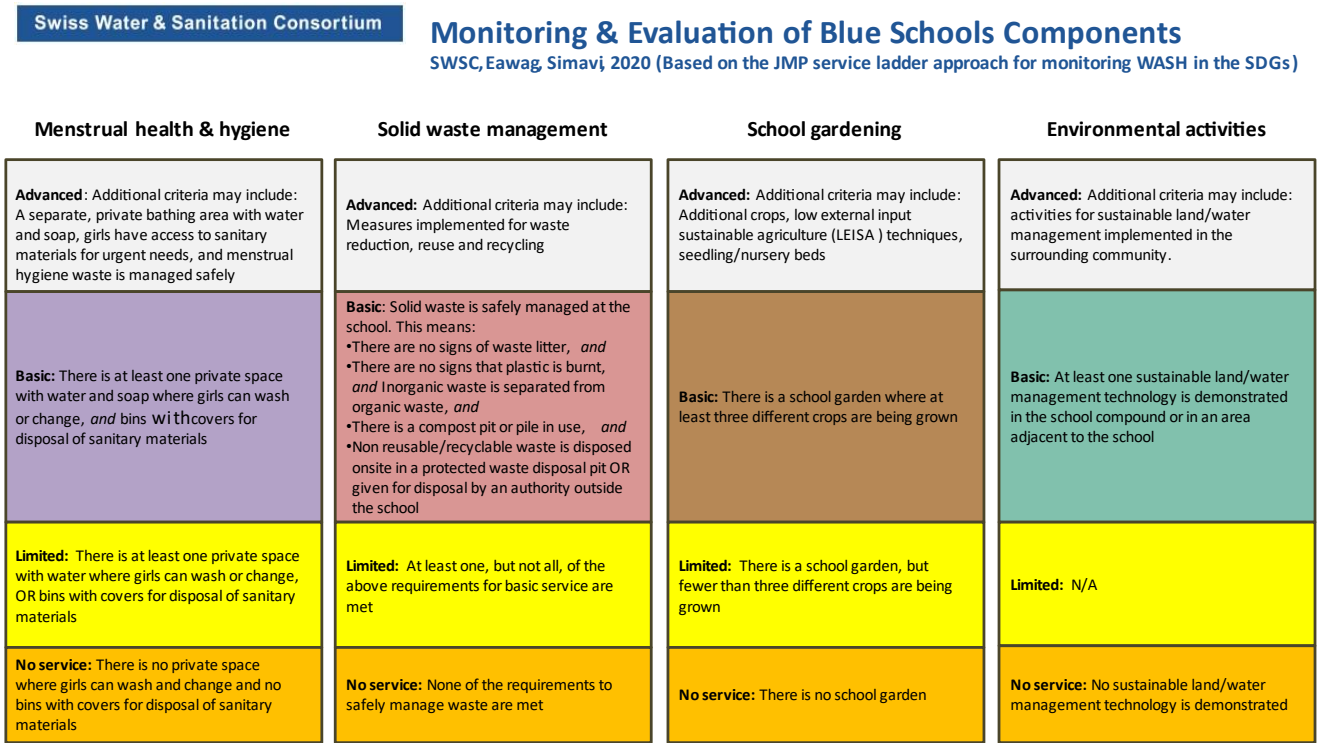
1. Water,
2. Sanitation,
3. Hygiene,
4. Menstrual health and hygiene and gender
5. School Gardening,
6. Solid Waste Management, and
7. Environment.

Figure 1: JMP WASH service levels



WASH fully aligned with JMP; non-WASH components: service level defined by SWSC with support of experts. Refer to the tables below.

Figure 2: SWSC non-WASH Criteria



4.2.2 The Five Blue Schools Principles[3]

Five principles shape the implementation of the Blue Schools approach:

1. It addresses schools' Water, Sanitation, and Hygiene (WASH) needs to create a foundation for overall health and educational improvement.
2. It is not just a set of guidelines but a mindset that emphasises hygiene and environmentally conscious practices to foster a healthy learning environment.
3. The approach promotes learning by doing, encouraging active student participation in practical WASH and environmental interventions.
4. It focuses on strengthening systems and involves all stakeholders to ensure sustainable interventions.
5. It recognises the importance of tailoring interventions to each school's unique context and needs, making them practical, culturally appropriate, and sustainable.

By adhering to these principles, schools can create safe and healthy environments that promote learning, reduce absenteeism due to hygiene-related illnesses, taboos and stigma, and raise awareness about hygiene and environmental importance in their communities.

[3] Source: Background documents, SWSC CMU Presentation, 'Generalities on Blue Schools, Session 1', page 6.

5 Methodology

5.1 The Conceptual Framework

The study methodology consisted primarily of qualitative data collection of perspectives and evidence from project stakeholders regarding the value and processes of the Blue Schools in the three countries, namely Cambodia, Ethiopia, and Madagascar. The CMU selected these countries because they have demonstrated significant involvement and progress on implementing the Blue Schools approach. The data collection tools used included key informant interviews (KIIs), focus group discussions (FGD), observation checklists and structured observations by the researchers. The tools were contextualised for each country project whilst addressing thematic evaluation questions outlined in the Terms of Reference (ToRs).

The study team developed a conceptual framework (see annex) that considered both the Blue Schools principles and the Enabling Environment (EE) matrix, which is based on the Sanitation and Water for All building blocks, a framework used globally in the WinS sector for system strengthening and the enabling environment required for successful implementation and scaling of WinS.

Table 1 OECD criteria areas, key research questions and the Enabling Matrix areas used in this study

OECD Criteria	Key research questions	Primary areas within the EE matrix that the question is covered or reported in the findings
Effectiveness	To what degree did implementing the Blue Schools lead to the expected results regarding service levels, promoting learning by doing, and uptake by national government authorities?	✓ Implementation Arrangements ✓ Capacity Development ✓ Monitoring and Evaluation
Efficiency	The extent to which the intervention delivers or is likely to have results in an economical and timely way	✓ Budget and Financing ✓ Implementation Arrangements
Sustainability	The extent to which the net benefits of the intervention continue or are likely to continue. This includes the involvement of government authorities, advocacy efforts, and facilities' resilience.	✓ Implementation arrangements ✓ Capacity Building ✓ Monitoring and Evaluation ✓ Budget and Financing
Impact	The extent to which the intervention has generated or is expected to generate significant positive or negative, intended, or unintended, higher-level effects concerning the target population, schools, and integration in other programmes nationally	✓ Policy and Planning ✓ Implementation Arrangements ✓ Capacity Development ✓ Monitoring and evaluation
Relevance	The extent to which the intervention objectives and design respond to the needs of the schools and communities and the policies and priorities of national institutions and in-country partners.	✓ Policy and Planning ✓ Implementation Arrangements ✓ Capacity Development
Coherence	The compatibility of the intervention with other interventions in a country, sector, or institution.	✓ Policy and Planning ✓ Implementation arrangements ✓ Capacity Development

Note: The innovation section cuts across all EE areas and provides evidence for all OECD criteria areas

The decision to use the EE matrix for assessing system strengthening was based on its widespread adoption by Ministries of Education and WinS partners for planning and reporting. The study team could present findings and recommendations that are aligned with the EE matrix which is a familiar framework to government counterparts. Additionally, the EE matrix aligned well with the Agenda for Change building.

To effectively analyse the research findings from the three countries, the study team organised the research questions according to their relevance under the EE matrix for WinS and the Blue Schools principles; this facilitated the analysis process and allowed for a structured presentation of the findings. Please see the breakdown of questions under EE matrix building block in the annex.

5.2 Methods of Data Collection and Analysis

On February 15th, 2023, a kick-off workshop with SWSC was held where it was agreed that the study would focus on evaluating project impact based on OECD evaluation criteria. The goal was to gain insight into stakeholder perceptions and document the approaches employed during project implementation. The research questions were derived from the Terms of Reference and refined through joint analysis workshops involving SWSC and project teams. To collect the required data, specific tools were developed for different stakeholders and levels of investigation. Country teams adapted these tools to suit each project's unique contexts and requirements, which allowed for closer engagement with stakeholders but resulted in a partial loss of cross-country compatibility. The collected data was analysed against research themes outlined in the Terms of Reference and the conceptual analysis framework. Where available, researchers used quantitative data to back findings, such as in the case of enrolment data from schools in Ethiopia or costing data from project teams. The findings were compiled in three separate country reports and shared with CMU for comments. The reports were further amended, with the transcribed answers provided against the conceptual framework in Ethiopia and Madagascar.

5.3 Sampling

The SWSC partners and the research team collaborated to carefully select the most suitable samples, considering factors such as availability and willingness of stakeholders, security, and accessibility. Specifically, they selected six out of 45 intervention schools for sampling in Banteay Meanchey Province, Cambodia. In Ethiopia, they sampled all three schools from each target region, Amhara, and Oromia, resulting in six sampled schools. In Madagascar, they identified four of the 12 intervention schools covered by the project in the Ampanihy and Betioky provinces. Interviews with selected students took place at school in Ethiopia and Madagascar in the presence of school administration or, in some cases, community members. In Oromia, only one focus group was held with girls because the researcher collected the data after the semester, and it wasn't easy to mobilise students because they lived very far from the schools. However, in those schools in Oromia, researchers met the school directors and a selected number of teachers. In Cambodia, the researcher interviewed students with their parents at their homes.

Focus group discussions included community members who were part of the school management committee, as they played a direct role in the project. Key informants were selected based on their knowledge, project involvement, and positions within relevant offices. Different from the other countries, in place of focus group discussions in the Kofele District in Oromia, selective household interviews based on pre-arrangements made by the school officials or implementing partners and visits were held in Ethiopia.

Table 2: Information on country administration breakdown and research tools administered

Country	Region	District	Name of the Schools	Tools administered
Cambodia **National**	**Province**	**District**	**School/ Commune**	• 12 students interviewed, i.e., two per school, six school observation checklists, • Five neighbouring communities' observation checklists, 10 household visits, two per five schools, • Unstructured KII with two parents per school as part of the home observations, • Six FDGs with school principals and officials, and one FDG with provincial education office and interviews with national school health department and, • Photo documentation.
	Banteay Meanchey	Thmor Pourk	Ro Lomchrey	
		Serey Saophorn	Chhouk	
		Preah Netpreah	Tro Lok	
		Phnom Srok	Spean Sraeng	
		Malai	HunSen Ou Sampor	
		Mongkol Borey	Lor	
Ethiopia **Federal**	**Regional/ Zone**	**District/ Woreda**	**School/ Kebele**	• Three KII with school principals, one KII with district of Education official, • Walk-about and observation checklist in three schools, • One FGD Girls only at Hidase (12 girls) and, • Two home observations with KII with parents and students in Embuacho, Elefez.
	Amhara	Angolelana Tera	Hidase, Embuacho, Elefez	
	Oromia	Kofele	Chatimena, Kope, Tulu Boke	• Two KII with school principals, one KII with district Education official, • Walk-about and observation checklists in three schools, • Six, FGD Girls (three) and FGD mixed boys and girls (three) for all three schools: each FDG had between 6-12 students and, • Two home observations with unstructured interviews.
Madagascar	**District CISCO**	**Commune ZAP**	**School/ Fotany**	

National- MEN Regional- DREN/		(Education Zone)		• 13 KII with one-national, two-regional, four-district, and four commune level officials, two development partners (World Bank/WSUP), • In all four schools: four KII with school principals, 4 FDGs with school committees, • Four walkabout and observation checklist in each school, • Four FGDs with students: 12 students in total, approximately, three students per school and, • Four community and home observations- unstructured.
	Ampanihy	Amboropotsy,	Agnaramaika, Amboropotsy,	
	Betioky	Betioky Centre	Ampakabo and	
		Betioky II	Andranomena Ma-hasoa	

5.4 Ethical Considerations

Researchers were responsible, where required, to obtain all relevant clearance from the country-based research bodies in collaboration with SWSC partners and were obliged to conduct the study with three universal ethical principles: 1) respect for participants, 2) beneficence and 3) justice.

5.5 Analysis and Quality Assurance

The study team took several necessary measures to ensure high-quality research and analysis. Firstly, they conducted a thorough review of the data collection tools to ensure that they effectively addressed the key research themes and met the requirements of the SWSC team. Secondly, the CMU and country-based project teams carefully reviewed the conceptual analysis questions and provided valuable input to enhance their clarity and effectiveness before data collection. Thirdly, researchers followed agreed-upon guidelines and consulted with SWSC partners in each country to sample respondents. They made efforts to ensure a balanced representation of gender among the selected respondents.

The research team conducted meetings to review the research framework and provide a shared understanding of the conceptual analysis of the Blue Schools principles and the EE matrix for systems strengthening. The team designed data collection procedures to maintain objectivity and accuracy. Researchers translated interview questions into local languages to facilitate effective communication with respondents, and responses were recorded in English or French to maintain consistency.

The conceptual framework was transferred to a reporting template in Excel, enabling country researchers to organise qualitative data and facilitate comparisons across countries. The researchers triangulated the qualitative data collected with existing SWSC data using Microsoft PowerBI and FACET Excel Analyser dashboards, the costing sheets completed by implementation teams, and the SWSC system strengthening marker to validate the findings and for analysis. The collected data from country interviews underwent thorough review and cleaning to address any missing information.

Researchers developed individual country-finding reports as an additional step in the analysis. They collated all answers concerning the specific conceptual framework questions from respondents and supplemented the information with government documents. They grouped similar themes and ideas to synthesise coherent statements or findings and organised them into a report for each country. Research teams, jointly with SWSC partners, held online analysis meetings. In Cambodia, the researcher validated the study's initial results through a presentation and discussion meeting with the Blue Schools team in the country. This meeting allowed for collaborative discussions, knowledge sharing, and alignment of the analysis findings. For some parts of the analysis, researchers drew on the recently published sustainable systems framework by Christine JiaRui Pu et al., based on a meta-analysis study (2022) of 19 case studies. Finally, the preliminary analysis and conclusions were presented to the CMU before the researchers drafted the final report, ensuring a comprehensive and accurate representation of the research outcomes. The report has undergone several reiterations in discussion with the CMU.

5.6 Limitations and Challenges

The study faced delays in adhering to the originally planned timeline due to various factors, including the team's size and composition, unavailability of researchers and schools, and the methodology's complexity. The team encountered multiple challenges, such as communication gaps caused by a dispersed research team across different countries and limited internet access, resulting in delayed delivery of study outputs. The team used various means of communication to address challenges, including WhatsApp and email for document revisions, which prolonged the process. Given the different implementing partners and context, researchers did not collect nor have access to the same level of information for each country. Researchers were also reliant on the data provided by project teams. For example, SWSC costing sheets from the three countries were not comparable despite the standard template. As a recommendation, project team require more guidance from the CMU on what and how calculations should be made and find ways to represent market values-

particularly for community contribution, in-kind donations, and NGO indirect costs. Noting the importance of costing and efficiency metrics, researchers recommend a dedicated and further study on costing with attention to improving the costing sheets, as this is outside the scope of this study.

The study's schedule had to be adjusted due to impromptu school closures in Cambodia, resulting from the country hosting the 2023 Southeast Asian Games. The long vacation period from late April to mid-May and the closure of public and private higher education institutions affected the study's timeline and activities in the country.

The sudden departure of a researcher in Ethiopia led to a delay in fieldwork and required rapid recruitment and onboarding of a new researcher. The study team reviewed the guiding policy documentation and supplemented existing findings in the absence of being able to secure national level government interviews. The late schedule and summer break made it difficult to mobilise student interviews, resulting in fewer focus groups for girls in one school in Oromia. The study's timeline and outcomes in Ethiopia were inevitably impacted by these challenges.

The conceptual framework's complexity in six areas of policy and planning, budget and expenditures, implementation arrangements, monitoring and evaluation, capacity development, and innovation resulted in over 70 questions. The breadth of topics covered compromised the level of detail in the key findings. Despite these challenges and limitations, the study team recognised and addressed them accordingly. The team appreciates the SWSC's understanding and cooperation with the process.

Notably, this study generalises findings on Blue Schools approach and is not statistically significant because only three out of the nine countries were visited, and these countries represent what the CMU considered success projects.

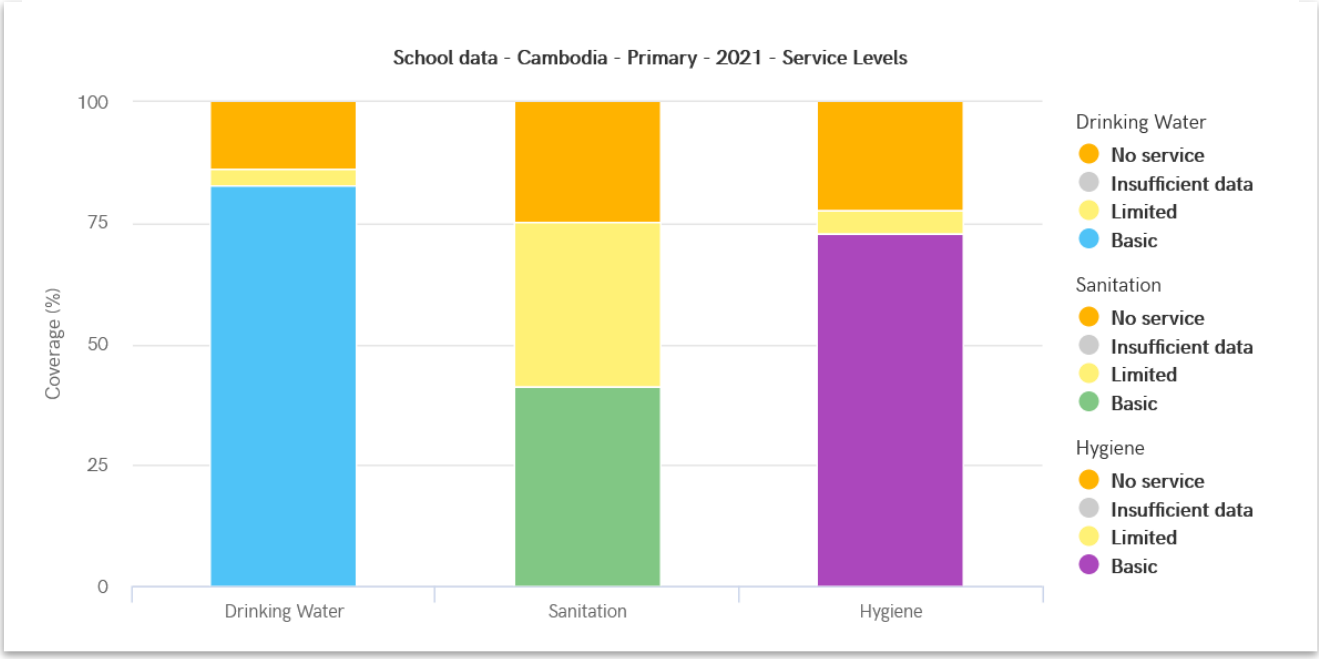
Figure 3: Key informant interviews, observations, and focus group discussion, Oromia, Ethiopia, Source: Kassahun Kebede

6 Country Findings

6.1 Blue Schools in Cambodia

Over the last decade, Cambodia has significantly improved access to WASH in schools. According to the latest JMP 2022 report, the country is set to meet SDG school hygiene targets.

Figure 4: National WinS Service Levels, source JMP.



The Blue Schools approach was implemented in Cambodia by CACH. The first two phases were successfully piloted in eight schools in 2018 and followed by Phase III from 2019 to 2022 covering 45 schools and over 14,000 students and teachers in nine districts of Banteay Meanchey province. The selection criteria involved schools with zero to one star, based on the national Minimum Requirements Guidelines on WinS, location, large student population exceeding 200 students, competent school management, availability of a school fence, engagement with local communities, and access to sustainable and quality water sources.

In Phase III, three local implementing partners were involved, including the Banteay Meanchey Provincial Office of Education (PoE), a local NGO called the Social Environmental Agricultural Development Organisation (SEADO), and the private sector partner, the Rural Water and Sanitation Team (RWST). Each partner was responsible for implementing the Blue Schools approach in 15 schools.

To provide better water, sanitation, and hygiene conditions in schools, the German NGO ESC-BORDA was hired to build toilet blocks with sanitary pad disposal bins, wheelchair access, handwashing facilities, and a wastewater treatment system. They also taught schools how to maintain and operate these facilities. The CACH team then trained three partners on the Blue Schools approach, covering solid waste management, gardening, MHH, knowledge sharing, advocacy, policy influencing, and evidence generation.

As of the end of 2022, 45 Blue Schools in Cambodia meet basic service levels according to JMP and SWSC indicators. This means that schools have access to clean water, gender-aggregated sanitation facilities, soap and water for hygiene, and activities related to MHM, gender, solid waste management, school gardening, and the environment. Advanced service levels were achieved in water supply and sanitation owing to water quality testing, and treatment of water supply and wastewater. Additionally, the Blue Schools approach in Cambodia used the nationally defined minimum requirements' monitoring and quality assurance mechanism, which credits schools with stars in a clear benchmarking system to hold school, district, and provincial officials accountable for school's performance.

Monitoring of the 45 schools conducted by education officials have found that all schools have improved from zero and one star in the 2020 baseline to 22 and 23 schools achieving three- and two-star ranking respectively by December 2022. As a result, over 14,000 students and teachers have achieved full access to WASH facilities, with improved hygiene knowledge and practices on WASH, MHH, waste management and the environment.

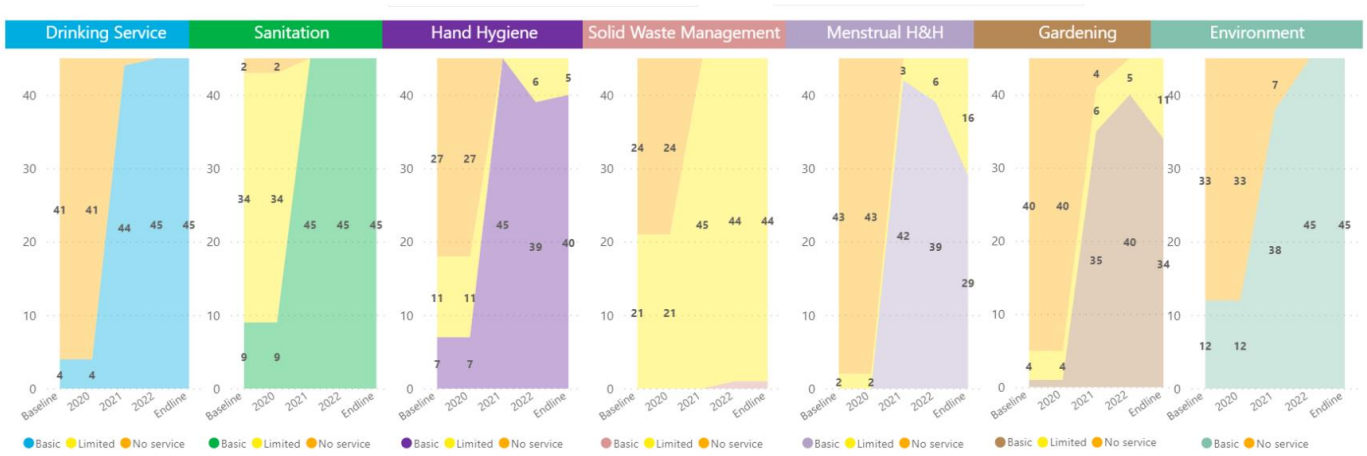
Table 3: 45 Blue Schools ranking in Cambodia using the Three Star Approach or Minimum Requirement Guidelines

Blue Schools - Endline data - School Year 2022-2023				
	Drinking water	**Latrines, Urinals and MHH facilities**	**Handwashing facilities**	**Environment and safety**
Zero/no star	0	0	0	0
One star	0	0	0	1
Two stars	0	38	5	26
Three stars	45	7	40	18

Source: Banteay Meanchey Provincial Office of Education (as provided by CACH). Out of the 45 Blue Schools, 22 have reached a three-star level and 23 have reached two-star level. CACH Cambodia was able to provide the breakdown of the four areas for the star ranking: drinking water, sanitation (toilets, urinals and MHH facilities), hygiene and Environment and safety (solid waste management)

The Blue Schools approach in Cambodia complements GIZ's Regional Fit for School Programme in the country which promotes group handwashing and toothbrushing activities among students and adheres to the Three Star Approach (TSA). The TSA emphasises scale, simplicity, sustainability, and a system-oriented approach to incremental improvements, utilising local resources and community involvement. The monitoring and evaluation system plays a significant role in incentivising improvements in schools.

Figure 5: Service levels Cambodia, source: SWSC Microsoft PowerBI



Service levels in the majority of the target Cambodian schools are now at basic service from the baseline of no or limited service.

6.1.1 Policy and Planning

Relevance

The Blue Schools project in Cambodia aligns with the Ministry of Education, Youth and Sport's (MoEYS) Education Strategic Plan (ESP) 2019-2023. The project invests in WASH infrastructure and capacity building on safe WASH, MHH, and environmental practices, contributing directly to the ESP targets and Minimum Requirement (MR) Guidelines. This policy

document sets targets for increasing the coverage of WASH facilities and increasing the number of schools that achieve two and three-star rankings based on the MR guidelines for Water, Sanitation, and Hygiene in Schools in Cambodia. The MR guidelines are adapted from the Three Star Approach (TSA) concept, that aims to move schools towards WinS national standards through a stepwise improvement on four key areas: drinking water, latrines and urinals, handwashing facilities, and environment and safety. By creating healthy learning environments, the Blue Schools project supports MoEYS's child-friendly school policy, particularly dimension 3, which focuses on safe WASH and school environments. The Blue Schools project outcomes align with the National School Health Policy, specifically strategies 5.3, 5.4, and 5.5, promoting school gardening, access to WASH facilities, personal hygiene, waste management, and a healthy environment. The MoEYS supports the project's investment in minimum requirements and standards to encourage schools to make improvements using available funds provided by the government or communities. The stakeholders expressed enthusiasm and appreciation for the holistic improvement and transformative impact the project has achieved.

CACH developed a Blue Schools E-learning app through a contracted agency to support replicability and scalability. The Ministry will take over the app after a pilot phase. Additionally, the project supported PoE and schools' efforts to create a School Development Master Plan as a roadmap for comprehensive development and stepwise improvement to ensure all achievements are sustainable.

Integration

The Blue Schools approach has been integrated mainly at the provincial level, with cooperation agreements between CACH and the Provincial Office of Education. Efforts to align the approach on a national level include the signing of a Memorandum of Understanding with the MoEYS. However, the primary focus has not been integrating the approach into the national education system. The Blue Schools approach complements existing policies and introduces concepts directly to students, thereby translating the WinS policy into practice. However, as a recommendation, there is room for improvement in engaging and coordinating with the School Health Department at the provincial and national levels. Doing so will enhance the likelihood of mainstreaming the Blue Schools approach into the curriculum.

6.1.2 Implementation arrangements

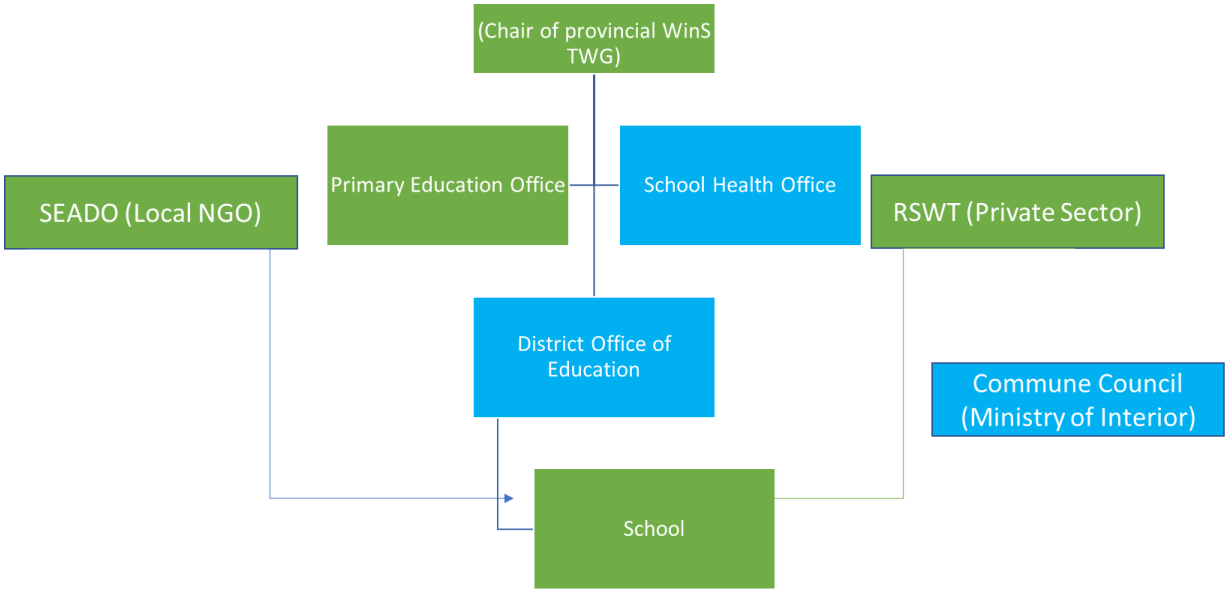
The Provincial Office of Education (PoE), supported by its Primary Education Office, is responsible for steering and planning the project activities. The PoE serves as the direct implementer with the schools, along with SEADO and RWST. According to CACH, schools managed by the PoE showed quick achievement of outcomes, likely due to the perceived authority of the PoE over the schools. The engagement of the School Health Office is limited, and there is unclarity regarding their leadership role in the project. The involvement of the commune council, as the local-elected government, should be encouraged for sustainability and resource mobilisation through the commune development fund. Although the commune council pledged support for the Blue Schools project and individuals have contributed personally, no public funding allocation has been made.

A notable point is that CACH invested significant effort to engage and coordinate with various stakeholders at the national and sub-national levels. According to government authorities, this proactive approach stands out compared to some NGOs that either work in silos or may not involve authorities in their work.

Implementation arrangements at the school level

Trained teachers have integrated all Blue Schools components into the existing curriculum and group activities, such as handwashing, toothbrushing, gardening, and trash picking. The frequency and consistency of these activities vary among schools based on the management committee and teachers' arrangements. Field observations and interviews confirmed students' knowledge and practical learning, with some students independently practising habits like handwashing and waste recycling. Through meetings and resource mobilisation, parents have been involved and expressed awareness and satisfaction with the schools' efforts.

Figure 6: Blue Schools implementation arrangements at the provincial level



Note: The highlighted green boxes are actors engaged to lead and implement the Blue Schools project

6.1.3 Monitoring and Evaluation

Level of Achievement of Outputs (Value)

The WASH components are at basic or advanced service levels in all schools with the exception of Ro Lomchrey school, which did not have soap, when observed. There were a few discrepancies in the FACET data, as it was observed that Lor and Tro Lok primary schools have now reached basic service levels in hygiene, MHH and school gardening, but FACET 2022 data indicated they had limited-service levels. Hence the schools continue to progress up the service levels.

Figure 7: Cambodia Service Levels as per evaluation observations. Source: FACET Analyser and research observations.

Component	Key outputs in six schools visited	Baseline, FACET	Findings from the evaluation
	•Piped water supply extension •Water quality testing •Reverse osmosis filtration	•No service	•Basic
Sanitation & Hygiene	•Construction of toilet blocks for schools segregated for boys and girl's wheelchair access, and sanitary pad disposal bin in girl's toilet •Provision of handwash facilities attached to the toilets, and group handwashing facilities •Provision of boy's urinals	•Limited	•Basic
	•MHM education which include school management and teachers using the Blue Schools kits, and integration of the topics into classroom teaching •Provision of sanitary pads for girls	•No service	•Basic
	•Establishment of school garden •Growing vegetables for food, and greenery and plants around school for beautification	•No service	•Basic
	•Training of teachers using the Blue School Kits •Learning by doing principles of solid waste management • Focus on Three 'R's teachers applied reuse principle for their teaching, •Visible and creative re-use of materials in schools, e.g., playgrounds	•Limited	•Limited ☆
	Planting of greenery and plants around the school, learning by doing, outdoor classroom. •Integration of environment component in science curriculum	•Basic	•Basic

The figure below presents outcomes from field observations of all the sampled schools, compared with the data provided in FACET4 and the reports found on Microsoft Power BI.

Notable points on the outputs in the six visited schools are:

- The six observed schools have achieved basic service levels in water supply, sanitation, MHH, gardening and environment. There are discrepancies in the FACET data in terms of the primary water sources reported versus what was observed. Schools tend to have multiple water sources in Cambodia, or some have become since inoperable and replaced, and this could be the reason for discrepancies.
- There's been a slight decline in hygiene with one school observed not to have soap at the facility. So, the school's hygiene service is at the limited level, rather than at the basic level as reported by the FACET.
- At baseline, some schools had limited-service levels in non-WASH components because these components are part of the national education standards. MHH, environment and aspects of schools gardening are part of the national standards or initiatives in Cambodia. However, Blue Schools supported the schools to reach basic service levels.
- All schools have received incinerators for disposal of non-recyclable and hazardous wastes such as sanitary pads. Trash collection services are largely unavailable in rural Cambodia, and burning waste is a common practice in schools and communities. Schools have embraced the 3Rs concept of reduce, reuse, and recycle by introducing measures such as banning single-use plastics among the food sellers and promoting the use of banana or lotus leaves to wrap the foods instead. Students are also encouraged to bring their foods in utensils that can be cleaned and reused. Despite significant improvement and efforts in solid waste management to reduce, reuse and recycle, the schools remain at limited service because the SWSC basic-service-level criteria does not permit the burning of waste. Burning plastic waste is not encouraged and prohibits the achievement of basic service levels as per SWSC standards, as noted earlier. In Phase IV, CACH and government authorities will need to find a solution for using burners in schools.

Toilets Ratios

The table below shows that only one school meets the national latrine ratio standards of 1:30 girls and 1:50 boys with urinals. There are discrepancies in latrine ratios in FACET, likely owing to changes in enrolment numbers. However, there have been general improvements in ratios in all schools. The PoE has collaborated with schools to add urinals for boys, and this will decrease latrine ratios. The urinals are also necessary to achieve three-star school status and to help meet national WinS standards. The urinals are constructed with contributions from the schools.

Table 4: School latrine ratios for the observed schools in comparison with baseline information from FACET analyser

Schools	Ro Lomchrey * not in FACET	Lor	Tro Lok	Spean Sraeng	Chhouk	HunSen Ou Sampor
Baseline latrine ratio 2020	1:265 for girls 1:318 for boys	1:157 for girls 1:173 for boys	No data	1:144 for girls 1:129 for boys	No data	No data
Improved toilet ratio in FACET 2022	1:144 for girls 1:51 for boys	1:18 for girls 1:18 for boys	1:52 for girls 1:28 for boys	1:46 for girls 1:28 for boys	1:99 for girls 1:66 for boys	1:39 girls 1:35 boys
Improved toilets which are usable and single sex Observed, 2023	1:91 for girls 1:154 for boys	1:20 for girls 1:37 for boys	1:66 for girls 1:107 for boys	1:47 for girls 1:65 for boys	1:48 girls 1:66 boys	1:55 girls 1:65 boys

[4] The baseline data for the sample schools was extracted from FACET data set provided by SWSC. Note that Banteay Chmar school was replaced by Ro Lomchrey and as such does not appear in the FACET baseline database.

Level of Achievement of Outcomes (Value)

All WASH facilities built under the Blue Schools project have been constructed in 2021, with in-kind and in-cash contributions from schools. The six schools visited were observed to have well-maintained WASH facilities in daily use. The design of the facilities is innovative and includes a wastewater treatment system developed by ESC-BORDA to address environmental concerns and sustainability. The wastewater treatment system is considered at the advanced service level.

Beyond the recorded Blue Schools components, schools have achieved additional improvements such as playground renovations, construction of walkways and the enhancement of the overall appearance of the school grounds. Creative use of recycled materials was also common.

Some unintended consequences of Blue Schools implementation have been reported, and efforts are being made to address them.

- Chhouk Primary School faced disruptions from numerous visits, resulting in missed classes and complaints by parents.
- Some schools have also received complaints because of too many fundraising appeals.
- Some schools have experienced increased electricity and consumable supply due to WinS facilities and group hygiene activities.

Efforts are being made to address these challenges, and the majority are temporary in nature. In the future, additional funds can be generated to cover school expenses using the school operational fund, community support, and the potential utilisation of the commune development fund.

Using FACET as a monitoring tool has presented challenges for the project team. CACH has struggled to complete the form and comply with its requirements, requiring the assistance of an external consultant. As a result, CACH favours discontinuing the use of the FACET in Blue Schools Phase IV because of its complexity and time-consuming nature. It is recommended to integrate Blue Schools monitoring within the district and provincial education's monitoring systems or at least use the government checklists compiled by the schools rather than having a parallel system, which has notable discrepancies and challenges to use.

6.1.4 Budget and Finance

Based on the information provided by CACH, the total cost of implementing the Blue Schools project is around CHF 18,000 per school. The average cost is CHF 58 per student. The table below summarises the unit costs. Refer to Annexe 2.1 for the details in the costing sheets.

Table 5: Information on unit costs in Swiss francs CHF for all Blue Schools in Cambodia

Cambodia, 45 schools	**Estimated school population, including students, teachers and supporting staff**		**13,393**
Costs in CHF	Hardware (CapEX)[5]	Software[6]	Total
Total costs[7]	670,000	139,500	807,500
Cost per school	14,899	3,100	17,889
Cost per student	48	10	58
Proposed/estimated O&M sources	National government, 25%	School operational fund, 25%	Parents, 50%

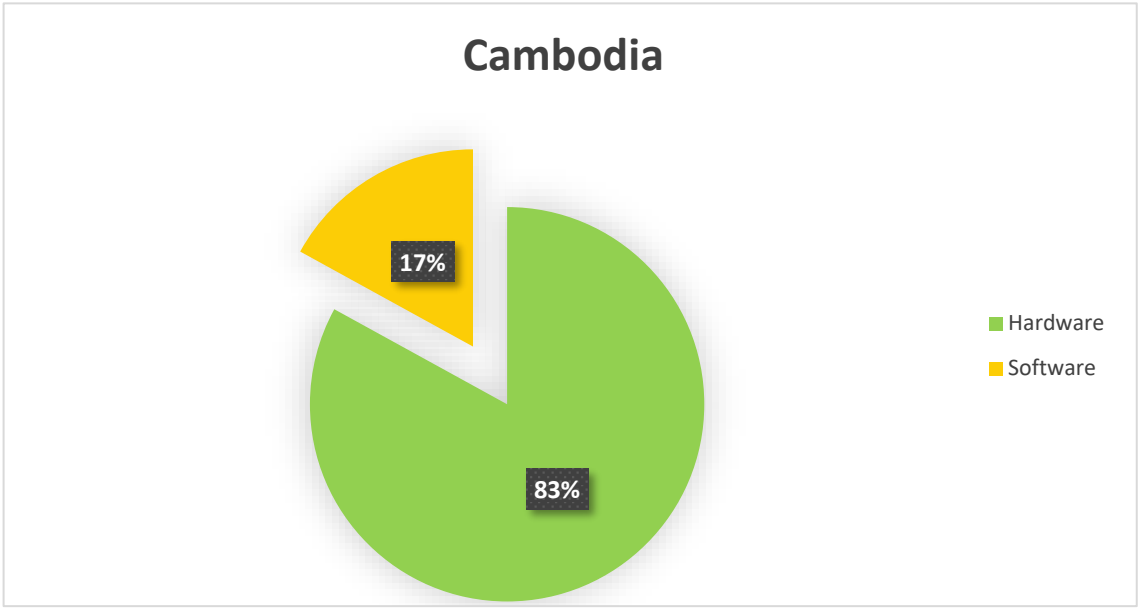
[5] Hardware refers to the capital or initial costs for construction, infrastructure, and equipment.

[6] Software refers to the orientation activities, training for stakeholders, and behaviour change activities, information, education, and communication (IEC) materials and information, communication, and telecommunication (ICT) equipment.

[7] Total costs include community contribution, which is approximately 3%.

Source: CACH Cambodia SWSC costing sheetFor this estimation, hardware refers to all associated costs for construction, infrastructure and equipment. Software costs refer to orientation activities, training for stakeholders, and behaviour change activities, information, education, and communication (IEC) materials and information, communication, and telecommunication (ICT) equipment. The net cost for the hardware, which includes toilets with decentralised wastewater treatment, handwashing facilities, drinking water systems, and incinerators, is approximately CHF 15,000 per school, accounting for 83% of the total CapEX. The WASH infrastructure makes up mainly the calculation of hardware costs and is comparably higher than non-WASH components because these were primarily training, materials, and supplies. The CACH team estimates CHF 2800 per school annually for wash supplies, consumables, and maintenance. CACH Cambodia estimated community contribution at CHF 20,000 for hardware and CHF 3,500 for behavioural change activities.

Figure 8: Proportion of Hardware versus Software costs, 45 schools. Source: SWSC costing sheets



Schools, with parental support, have contributed to the overall cost through financial and in-kind contributions, such as materials and unskilled labour. This is calculated at 3% of the total expenditure but may not accurately reflect their opportunity cost and inputs. Currently, the school operational budgets and central government contribute CHF 2,550 per school annually for overall school maintenance, and not specifically for WASH. At present, the future O&M is fully covered and does not pose a major issue for the schools because the CACH has surplus funds which are being reserved for this purpose. The schools and community, via in-kind and in-cash donations, will cover any shortfalls.

Replication

To determine if the government can replicate the Blue Schools project components in other areas, an examination was conducted of the school's operational funds and the yearly construction budget for WASH facilities, CapEX. For the past decade, the MoEYS has granted a national annual budget of CHF 1,000,000, which averages around CHF 2,500 per primary or secondary school, to build or renovate WASH facilities in approximately 360 schools annually. This budget is distributed based on the schools' needs and requests through the PoE. However, when comparing the national budget of CHF 2,500 per school to the CHF 15,000 cost of the Blue Schools' infrastructure and equipment, it is unlikely that the MoEYS can implement the Blue Schools approach on a large scale.

The school operational funds are provided to all schools to cover all their operations, with WASH-related expenses being just a portion. The government budget for each student is CHF 4.50, along with an additional fixed fund of up to CHF 1,200 per school. Schools have reported being overwhelmed with priorities when using these funds. When comparing the estimated cost of WASH supplies for the Blue Schools project, which is CHF 3.80 per student, to the national budget for school operations of CHF 4.50 per student, in the long run, schools would not be able to cover the cost without contributions from the community.

However, schools interviewed are confident that they can continue operating using their operational funds, and any remaining deficit will be covered by the school, parents, and community members, such as local business owners and

pagoda monks. The schools estimate that they will need a lower amount of CHF 1.70 per student for WASH supplies because they plan to supplement the cost with soap donations from parents to lower the figure. With community contribution, operations and maintenance are likely.

The CACH team believes that it's unlikely for the government to replicate Blue Schools because of its high cost. However, they justify the expense because of the excellent quality and innovative features, such as steel fences for protection, sanitary pad disposal bins, wheelchair access, and robust facilities. For instance, toilet blocks have wastewater treatment systems, so the effluent is not discharged back into the environment. All stakeholders, including educational officials and schools, believe the benefits are worth the cost. They highly value the visible transformation of the schools and the impact it has on the students.

The project was fortunate to receive substantial contributions from government entities and local communities. These contributions added value to the project and were demonstrated through spin-off activities. An example is the money for software activities in schools resulted in significant community contributions in gardens, fences, playgrounds, paving surfaces, and an overall improved learning environment.

The commune council is the elected local body with strong connections and influence over the local communities, including schools. They have the authority, responsibility, and the budget to support schools. As voters, schools and their communities can advocate with the commune council for improvements that they would like to see in their schools. There is a monthly commune council meeting where schools are usually invited to provide input. The school principal normally attends the meeting and is allowed to send requests for school support. This is an existing practice which development partners are encouraging schools and communities to do, as a default, when there are budget shortfalls. The process has distinct times for submission of proposals to match commune schedules and can be complicated and protracted. Partners like UNICEF have done extensive documentation on this and are advocates for greater commune council investment in school and community sanitation and water supply.

6.1.5 Capacity Development

The PoE reported an increase in technical knowledge and capacity to supervise the implementation of the Blue Schools. They witnessed changes in personal behaviours related to hygiene, waste management, gardening, and the environment, with a collective effort to reduce littering and plastic usage. Similarly, school management, teachers, and students have observed improved knowledge and behaviours. The observed cleanliness and organisation of the schools during field visits are significant achievements validated by the researcher. Stakeholders expressed joy and hope for continued progress. The students actively engaged in group hygiene activities, such as group toothbrushing, and the schools have stated that they have the capacity to maintain facilities. However, some school management committees may require refresher training on specialised topics like water filtration.

The Blue Schools Kit has supported teachers in conducting lessons and group activities. School-to-school exchanges fostered capacity building, inspiration, and healthy competition among schools, leading to improvements in WASH and non-WASH components. Blue Schools facilities are inclusive, with wheelchair accessibility, and disadvantaged groups have equally benefited from the programme. However, there is a need to address the low representation of students with disabilities in visited schools, suggesting community efforts are required to increase their enrolment.

The replication or mainstreaming of Blue Schools by other partners is anecdotal and could not be confirmed. While Blue Schools have received visits from various partners, it is unclear how many other schools have implemented the Blue Schools approach. HEKS/EPER is using Blue Schools for implementation in Pursat province.

Schools reported replication to neighbouring schools, particularly in gardening, environmental practices, and menstrual hygiene interventions. Peer visits and observed improvements by neighbouring schools have been cited as triggers for replication, with the PoE promoting Blue Schools as a role model during meetings. Parents and students claimed to practice better personal hygiene, including handwashing with soap, toothbrushing, and menstrual hygiene management at home. Home visits by the researchers showed that waste management and home gardening are not widely practised in the community, suggesting the limited influence on families. The assumption that children are agents of change was not apparent. A potential reason explained by the CACH project team was that community outreach activities could not take place during the COVID-19 pandemic, when they were originally planned. Notably, however, there was no community component in the Cambodia project.

6.1.6 Innovation

The Blue Schools have several innovative aspects, ranging from school-to-school exchanges and water quality testing to holistic improvements and creative teaching methods.

Table 6: Innovations for Cambodia

Activities	Results and processes
School-to-school exchange	Schools, the PoE, and the CACH team highly value exchanges. It fosters attitude change and inspires improvement among schools, making it an innovative approach to promoting best practices. **(Process evidence)**
Water quality testing	Blue Schools partnered with MRD to test water quality in schools and provided customised solutions based on the results. The project established a water quality testing lab for the entire province, receiving praise from the PoE, SHD, and schools. **(Value and process evidence)**
Holistic improvements	Blue Schools' approach goes beyond addressing a single aspect and focuses on holistic improvements. Blue Schools components transform schools into healthy learning environments, positively impacting learning outcomes. According to stakeholders, the project ensures sustainability by supporting schools in hardware, software, and long-term engagement and contrasts with the short-term, build-and-leave approach of other projects. **(Value evidence as articulated by key stakeholders)**
Blue Schools E-Learning platform	The E-learning platform is being developed to pilot in Blue Schools Phase IV to expand the replicability and scalability of the Blue Schools approach in Cambodia. In collaboration with the MoEYS, this will be an open course for the teachers and the public to become Blue Schools-certified practitioners for higher reach and impact of Blue Schools in the country. **(Process evidence)**
Blue Schools Approach with the Essence of Learning (EoL):	The EoL training has been introduced to 45 target schools to help teachers adopt practical-oriented and child-centred learning aspects of the Blue Schools approach. It's an innovative teaching method that simplifies teaching and learning processes, utilizing easily obtainable tools from recycled materials. It also encourages creative reuse of plastics and other materials. **(Process evidence as observed by researcher and articulated by teachers)**

6.1.7 Strength, Weaknesses, Opportunities and Threats (SWOT) Analysis of the Blue Schools Approach in Cambodia

Table 7: SWOT Analysis, Cambodia

Strengths	Weaknesses	Opportunities	Threats
Alignment with key relevant policies and government priorities. Signed MoU with the Ministry of Education, Youth and Sport (MoEYS)	National SHD role has been passive and symbolic. The District Education office *was* not initially engaged.	MoEYS has a dedicated annual budget of CHF 1 million, averaging CHF 2,500 per school.	Schools have reported that they are being overwhelmed with other priorities.
High-level support from the Secretary of State and Under Secretary of State The Provincial of Education (PoE) is a perceived authority prompting schools to be more attentive the in implementation of Blue Schools **(*Accountability evidence)***	While there is community contribution and some general allocation from national authorities, there is no dedicated public funding allocation for the Blue Schools approach by the commune councils or local authorities.	Minimum Requirements Guidelines are similar to Blue Schools principles because they encourage improvements even if no external support is available.	The commune office/ development fund is also overwhelmed with other local priorities.
High-quality and robust WASH facilities. Educational officials and schools perceive that the benefits are in proportion to the cost.	Project teams reported difficulties using the FACET tool for monitoring. Researchers noted minor discrepancies in FACET reporting	Potential use of the commune council development fund to support school operation and maintenance.	Poor coordination and duplication of support provided to one school by different development partners.
Capacity building activities happen via the PoE's Training of Trainers direct implementation with the school ***(Accountability and Process evidence)***	Few parents and guardians interviewed were not aware of Blue Schools. Transference was not evident to houses from schools in non-WASH components. Communities are not embracing waste management or home gardening.	The E-learning platform will be an open course for the teachers and the public to become Blue Schools-certified practitioners for higher reach and impact of Blue Schools in the country. ***(Process evidence)***	Climate change, natural disasters and extreme heat combined with existing vulnerabilities.
Significant efforts to reduce and recycle solid waste, including the banning of single-use plastic with vendors and encouraging children to bring utensils from home. ***(Process evidence)***	Mainstreaming or integrating the approach is limited to the province or project scope. Mainstreaming was not considered an objective of the project for this phase.	Community and parents perceive the benefits and are supportive of Blue Schools implementation in their children's schools.	Systems strengthening requires mindset shifts and willingness by NGO partners.

6.1.8 Recommendations

Policy and Planning: Better Integration with the School Health Department (SHD) and the school health curriculum

Enhancing collaboration with the SHD holds significant potential for maximising the integration of Blue Schools into a wider educational landscape. The school health environment is dynamic, with numerous projects, programmes, and evolving policies and guidelines targeting various aspects. By establishing a strategic partnership with the SHD, the project team can integrate Blue Schools approach with newly updated frameworks or relevant initiatives introduced by other partners. One potential area is the school health curriculum.

The three Blue Schools components: transforming waste into resources, cultivating food from soil, and understanding one's surrounding environment, i.e., centred on environmental awareness, possess a great potential for integration into the school health curriculum because they align with the concept of an environmentally conscious school. This is jointly advocated by the MoEYS and the Ministry of Environment. A revised and integrated content could encompass both theoretical knowledge and hands-on activities from the Blue Schools Kit, given that students have expressed more enthusiasm and enjoyment in practical exercises compared to traditional classroom lessons. To facilitate this integration proposal, a comprehensive review of the existing school health curriculum should be conducted to determine the gaps in practical application would be a potential entry point for Blue Schools.

However, it's important to acknowledge that integration into the curriculum requires time and investment. It might require a dedicated staff member working within the School Health Department, as it was done with the development of the Three-Star Approach for the Cambodian Minimum Requirement Guidelines.

At the provincial level, it is crucial to actively engage with the School Health Office, which serves as the sub-national extension of the SHD. As this office is relatively new, it might lack adequate staffing and resources for optimal functioning. Therefore, offering the necessary support to bolster its capacity could contribute significantly to strengthening the school health system at the sub-national tier. While this recommendation diverts from the CACH conventional approach of engagement with the government, an alternative approach to directly support the school health department could complement MoEYS existing policy efforts with the inclusion of the practical aspects of the Blue Schools principles.

Implementation Arrangements: Strengthen the capacity and capabilities of DoEYS.

The DoEYS operates with constrained human resources, limited capacity, and modest capabilities. Comparatively, they are less advanced and lack the comprehensive resources available to their counterparts at the PoEYS. To enable them to execute their responsibilities effectively, both materials and skill-building training are crucial prerequisites. This endeavour extends beyond the immediate scope of the seven Blue Schools components, encompassing a broader focus on strengthening the overall school health system at all levels, from the district, provincial to national levels as stated in the earlier recommendation.

Budget and Financing: Engage with Commune Councils for Funding Allocation.

The commune council is an elected body with the authority, responsibility, and budget to support schools. During the monthly council meeting, schools and their communities can advocate for WASH improvements and budget support. The school principal can send requests for support related to Blue Schools activities. As an overarching recommendation, CACH should collaborate with UNICEF and other partners to advocate for commune council investment in school and community sanitation and water supply and support schools in approaching the commune councils for financing.

Monitoring and Evaluation: Build a Consensus on Systems-wide approach Definitions and Criteria.

It is necessary to facilitate a shared understanding and consensus regarding definitions and criteria for the WASH systems-wide approach put forward by SWSC for implementation among partners in Phase IV. It is important to consult relevant partners such as the SHD, UNICEF, and the WinS TWG on systems strengthening to align with ongoing efforts.

The CACH team expressed that they find the definitions and criteria of the systems-wide approach challenging in the Cambodian context. It appears that they perceive the criteria as exceedingly high to attain for an NGO. An example is working through the government's procurement process for constructing WinS facilities. Considering the NGO's responsibility towards safeguarding the project funds and being accountable to the Swiss taxpayers, assurances of due diligence may be difficult to uphold. This study and recommendation should be a starting point for a frank discussion on the feasibility of some aspects of system strengthening in different contexts. The discussion on system strengthening in the next phase should address the project team's pragmatic considerations on their capacity limitations and the financial risks of working within the Cambodian government system.

Monitoring and Evaluation: Review FACET and its indicators.

This study does not encompass an evaluation of the FACET's appropriateness as a monitoring tool. However, it's worth noting that the Blue Schools project team does not express enthusiasm for its continuation in the upcoming phase. There were some discrepancies in the observed situation versus what was uploaded in FACET. It might be beneficial to delve into the discrepancies and initiate discussions about the tool's utilisation. Additionally, seeking insights from other stakeholders in the WinS TWG on matters related to solid waste management criteria in the Cambodian context could provide valuable guidance. Integrating the modification of the incinerator/burner design to enhance its environmental sustainability could potentially form part of the solution. The CACH team also proposed a dedicated person working on FACET and monitoring at the country level as a solution.

It is recommended to incorporate the monitoring of Blue Schools into the monitoring systems of the district and provincial education departments. Alternatively, schools could use government checklists instead of maintaining a separate monitoring system. This will help avoid discrepancies and make monitoring easier to manage.

Capacity Development: Scale up the EoL

The Essence of Learning (EoL) methodology holds the potential to achieve national scalability due to its emphasis on simplicity and the accessibility of teaching materials. It complements the Blue Schools approach well and supports learning-by doing approaches. In Phase IV, CACH has intentions to expand this approach to more schools. Many teachers have found this approach enlightening for both themselves and their students, suggesting that these skills should be extended to educators nationwide.

A promising step forward could involve integrating the EoL method into the pre-and in-service teacher training curriculum of the MoE. The EoL has garnered significant popularity and is perceived by teachers as beneficial for enhancing student learning. Its impact could be effectively multiplied by integrating it with the existing national teacher training programmes administered by the MoE. This idea requires dedicated resources such as a full-time position and financial commitment, to explore its feasibility and implementation.

6.1.9 Human Interest Stories

Figure 9 Ro Lomchrey Primary School, photo credit: Te Ayphalla, m4Edu

The Essence of Learning- the students' delight

The grade five teacher, Peouy Pheap's face beams with excitement and pride as she talks about using the Essence of Learning (EoL) method to convert daily teaching into a tangible learning experience for her students. Pheap and other Ro Lomchrey Primary School teachers in rural Banteay Meanchey have used recycled materials such as plastic bottles, caps, and straws to teach math and science or tell stories in class. Even though she has been teaching for over ten years, the EoL method is an eye-opening experience for her.

"Some students who used to be slow in learning the lessons can learn quickly with the EoL method as the lessons becomes tangible. For example, we do addition by counting the plastic bottle caps together, so instead of imagining the number in their heads, the students see the caps being counted in front of them. The study game and the role-play of the EoL method have helped to make the lessons more interesting and easier to understand for the kids. "I am a cabbage. I am a carrot." My students enjoy doing the role play for lessons on Vegetable Groups. Their classmates laugh and pay attention. Now, the teacher uses the materials to act out the story when reading out loud, and the students love it.

According to Mr Soun Nit, the Principal of Ro Lomchrey Primary School, the method was introduced to them with the Blue Schools Approach last year. The teachers received two training courses on the EoL method and have since applied it to their students' delight. Using what is typically considered trash as the EoL study materials helps to change the teachers' and students' beliefs about recycling. The materials can be picked up quickly from the bins and turned into study materials by the teachers and the students who enjoy working on them together. In one classroom corner, plastic cups are neatly stacked in rows, and the bottle caps, all in pink, are stored together in one big plastic bottle, ready for the student's learning. In another classroom, students played with the materials during recess. Motivated by the positive impact on the students, Pheap and her colleagues will continue using the method for their teaching.

"My students love to listen and see the story being acted out. They remember the story better, and they can recite the whole story again. This retention is better compared to the conventional learning methods".

The EoL training was provided to Ro Lomchrey Primary School teachers as part of the Blue Schools approach to 45 primary schools in Banteay Meanchey province since 2020. The approach helps the schools to make water, sanitation, and hygiene services accessible to the students and teachers. Further, the approach supports the schools to apply the 3' Rs' concept of Reduce, Reuse, and Recycle to achieve good waste management practices. It also covers menstrual hygiene management, food system and environmental education.

Figure 10: Ms. Rim Mao, Chhouk Primary School, Photo Credit: Te Aphalla, m4edu

From Bad To Good and from Having Little To Everything

One may think that Ms. Rim Mao would tire of the education work after almost three decades of teaching. On the contrary, as the school principal of the Chhouk Primary School, she is full of enthusiasm and has a burning desire to provide the best learning experience for her students. A walk around the Chhouk Primary School confirms this desire with the clean toilets, the handwashing facility with soap, the drinking water station, the crops from the school, the flower garden surrounded by colourful fenced, the neat pathways, a playground, and the clean school ground free of litter and foul smells. This is a contrasting picture of an average school in rural Cambodia.

Out of 7,000 primary schools in the country, one out of four schools do not have improved water sources, and two-thirds do not have improved toilets. Many toilets are poorly kept and unpleasant, causing female students to miss classes during their menstruation. Littering is common as schools struggle to contain flying plastic bags and cups. For the 400 students and teachers in Chhouk Primary School, their school is three-stars, as they received the highest ranking from the Ministry of Education of Cambodia, as it meets national standards.

Mao struggled to make incremental improvements for the first several years as the School Principal and achieved little results. In 2020, Chhouk Primary School was invited to apply for the Blue Schools approach, and she extensively consulted with the teachers and school support committee before applying. The schools are expected to be committed and contribute to the project costs. For Mao, the decision was not taken lightly. However, she soon realised the upside of her decision.

According to Mao: "*The Blue Schools Project helps my school to jump-start progress. It has helped our school to transform within a brief period from bad to good, from having little to everything…In the past, we did not practice waste separation and recycling. There was a lot of littering and rubbish in our school. It was also hard to mobilise the community resources. They did not trust us. "*

"But now we have seen changes in student's behaviour. They no longer litter, and they wash their hands often. The female students are now courageous enough to ask for menstrual hygiene support. The students enjoy the Blue Schools group activities such as toothbrushing and crop growing."

Chhouk Primary School is one of the 45 schools in Banteay Meanchey Province of Cambodia that have received support from the Blue Schools approach to improve their access to clean water, sanitation, and hygiene services, waste management, menstrual hygiene management, agricultural and environmental education, and practices. The project builds the infrastructure and school capacity to impart knowledge and good practices surrounding the seven Blue Schools

components to students. The project works with them to mobilise community support and build skills in resource mobilisation to secure long-term sustainability.

According to Mao: *"the Blue Schools project team helped us in planning improvement activities, which we followed and saw good results."*

"Seeing how other schools, even the secondary school, struggled to provide clean toilets, I realised that my school had changed. Now, even without constant monitoring, the toilets are clean. We can no longer tolerate littering and dirty toilets. We realise that we have come to embrace hygiene and cleanliness. The PoE has seen the outstanding results of Blue Schools and has asked other schools to follow through… I've come to the point that if all schools can practice the Blue Schools concept, there will be no more littering in the country."

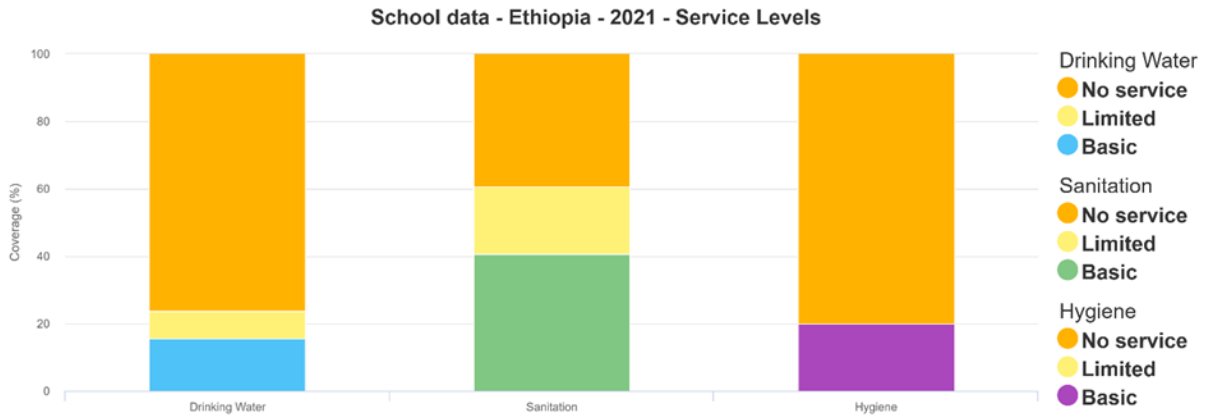
Asked if the achievements will last, Mao and her teachers responded confidently: "We are counting on four factors: participation, commitment, solidarity, and support from the school management committee. We will not go back to the past."

6.2 Blue Schools in Ethiopia

HEKS/EPER Ethiopia is the non-governmental partner of the Blue Schools project in Ethiopia[8]. The Phase III of project was from March 2020 to June 2023. Currently, the Blue Schools approach is implemented in a total of six schools in Oromia and Amhara regional states. The overall performance of the project is considered good despite the COVID-19 pandemic, which hampered project implementation in the beginning. The activities implemented vary in the six schools. However, the components of drinking water supply, sanitation, and hygiene, including menstrual hygiene management, solid waste management, school gardening, environment related activities are in all the schools. The project team's key government partner is the District Education office. The regional Bureau of Finance and Economic Development (BoFED) and the zonal and district-level FEDOs facilitated the project appraisal and signing of the agreement with HEKS/EPER.

The general situation on WinS

Figure 11: National WinS Service Levels. Source: JMP 2022



According to the JMP in Ethiopia (2021) 77% of schools do not have access to water supply. Nearly 40 per cent do not have sanitation, and 80% do not have access to hygiene services in schools.

In the Amhara region, data from the education office indicates that 47.5% of the schools[9] have access to the basic water supply. All schools have a limited form of sanitation, but only 30% of the facilities provide adequate and basic service. The Blue Schools approach is implemented by HEKS/EPER as the main partner and Enhanced Rural Self-Help Association (ERSHA) as the local partner in Amhara under the Angolelena Tera WASH Project (ATWP) project that aims to enhance

[8] CACH Ethiopia also implemented Blue Schools in Ethiopia but was not the evaluated as part of this study.

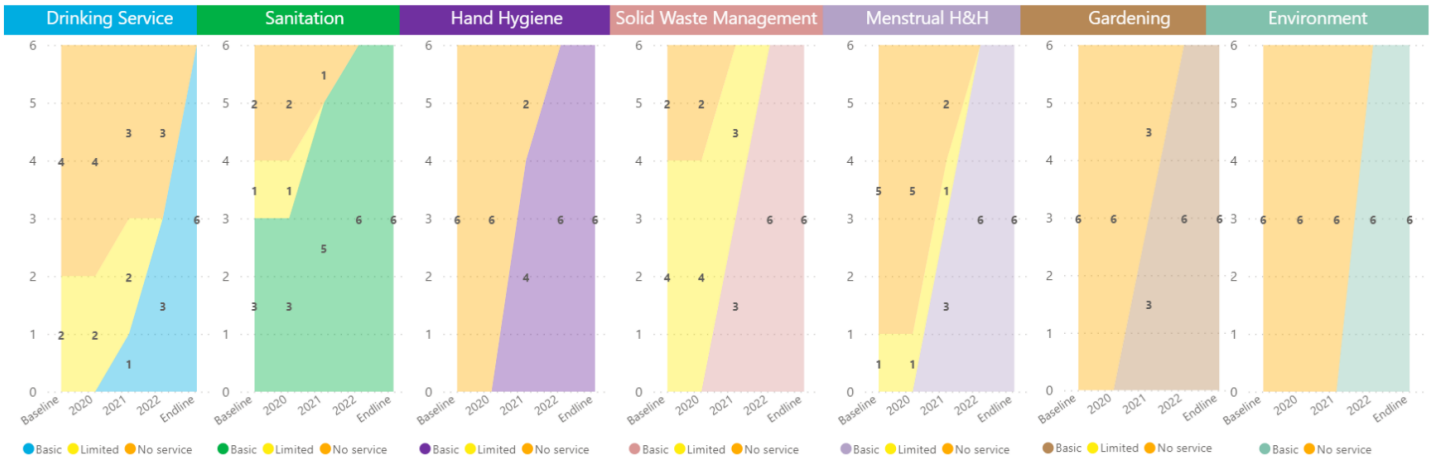
[9] Reference District Education Office, Amhara, personal communication.

rural communities, schools, and health institutions access to safe and improved WASH services. It does so by building a multi-village rural piped scheme and promoting proper sanitation and hygiene facilities and services.

In the Oromia region, the Blue Schools approach is implemented in collaboration with HEKS/EPER as the main partner and Dorcas Aid Ethiopia (DAE) as the local partner. The water supply coverage is extremely low, with only 17% of schools having limited access in Oromia. Moreover, these facilities do not provide continuous water supply, as reported by the district education office. In the Kofele district, only 5% of schools have access to basic sanitation services. The project, 'Creating the Next Generation of WASH (Water, Sanitation, and Hygiene) Champions in Kope, Tulu Boko, and Welensu Schools of Kofele District' aims to improve the learning environment by providing WASH services and inspiring students to become agents of change in their communities for environmental education and practice. The local implementing partners reported low school attendance and poor educational retention in these kebeles in Oromia, coupled with dire environmental health conditions.

There is a promising and positive trend of the schools meeting basic service levels in very challenging circumstances especially for water. Sanitation, menstrual hygiene, gardening, and environmental activities meet the basic SWSC service standards. The graph below shows the changes from baseline to endline in service levels for each of the components, as reported in SWSC Microsoft Power BI.

Figure 12: Service Levels, 6 Schools. Source: SWSC Power BI



Both water systems are connected to the national grid and each system supplies water to each of the three schools and neighbouring communities. Generally, water supply is unreliable because it is undermined by high fuel prices to run the generators and pumps. As electricity is not constant, the water systems need to have multiple power sources.

6.2.1 Policy and Planning

There is a plethora of policy documents guiding the education in Ethiopia. This indicates at some level the political attention that WinS and the environment receive from the government. For this study, five guiding documents are reviewed, as key informants repeatedly referenced them, and they help inform national policy framework for this study in the absence of interviews with national actors in Ethiopia. They are:

1. One WASH National Programme, OWNP (2014-2020) is the government's flagship programme whereby government, development partners and NGOs work together to achieve coordination/integration, harmonisation, partnership, and alignment principles. This translates into achieving one plan, budget, and report for the WASH programme among key ministries and development partners. The MoU is signed by the four ministries (Water, Irrigation and Electricity; Health; Education; and Finance and Economic Cooperation).
2. WaSH Implementation Framework (2011-) (WIF) outlines the means to achieve the national targets by providing the institutional framework at federal, regional, zonal, and district levels, including the roles and responsibilities of government and development partners.

3. The Education Sector Development Programme VI (ESDP VI) and the School Improvement Plans are guiding documents for the education sector and include WASH and the environment as cross-cutting issues. The ESDP shares the education sector's vision, values, goals, and objectives. WASH appears under Programme Component 3, Quality Improvement and Relevance to the Labour Market, under sub-component 6, 'Transforming Schools into Effective Teaching and Learning Centres'.
4. The National School Water, Sanitation and Hygiene (SWASH) Strategy and Strategic Action Plan (2018) aims to support stakeholders in implementing WinS' activities.
5. The National School Water Supply, Sanitation And Hygiene (SWASH) Implementation Guideline corresponds with the strategy and strategic action plan to support its implementation. It sets the minimum standards for WinS in Ethiopia.

Further to the cited documents by key informants, the Environment Policy (1997) underscores the need of a policy on for natural resource and resource management in Ethiopia. The overall goal of the policy is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. The policy outlines nine specific objectives and nineteen key guiding principles under this goal.

The District Education Offices are working towards implementing the One WASH National Programme, and the Blue Schools approach provide complimentary support to primary schools in line with the School WASH National strategy and the Education Sector Development Programme ESDP VI priorities.

The district education officials interviewed felt that the WASH and environment components of the Blue Schools approach are aligned with the ESDP VI. The Blue Schools approach is helping the schools achieve the ESDP VI programme level targets because while the ESDP VI states what needs to be done, it does not explain how it should be done. Therefore, the Blue Schools approach was seen to fill this gap according to both education officials and the implementing NGOs. **(Value evidence)**

District officials identified support for WASH planning at Angolelana Tera and Kofele districts level, CHAST training for teachers, the strengthening of the parent- teacher- student association (PTSA) through awareness raising on WASH, and inclusion of components like vermicomposting, MHM, mini media for the school clubs as enhancing the capacities within ESDP VI **(Value evidence)**. Given digitisation in schools is also a priority area in the ESDP VI, resources for mini media were welcomed support.

Six school principals and the District Education office in Angolelana Tera and Kofele provided evidence for relevance **(Value evidence**):

- In the Angolelana Tera district, they included WASH, vermicomposting, and gardening in their plan of action at the district level, which was cascaded downward to schools.
- District officials claimed that they also integrated the WASH project activities with the national One WASH National Programme (OWNP) component activities. However the water bureau did not respond to researchers request for confirmation and did not corroborate this information with the researchers. Water or Health bureau representatives did not participate in the project briefing and interviews.
- The district education monitoring led to the identification of Blue Schools as model schools. This helped the district education office introduce the WASH and non-WASH components to other schools.
- School WASH clubs are strengthened in all six intervention schools through training and being resources with equipment for mini media. These clubs had activity plans which included all the components of the Blue Schools approach (**process evidence**).
- The school principals, teachers and the district education office prepared a monitoring checklist with all the components of the Blue Schools approach, namely the promotion of latrine use, hand hygiene, vermicomposting, MHH, and gardening, which they claimed that they evaluate regularly. The project worked primarily with the district agriculture and health offices, as there is no environment office district level-level (**process evidence).**

6.2.2 Implementation Arrangements

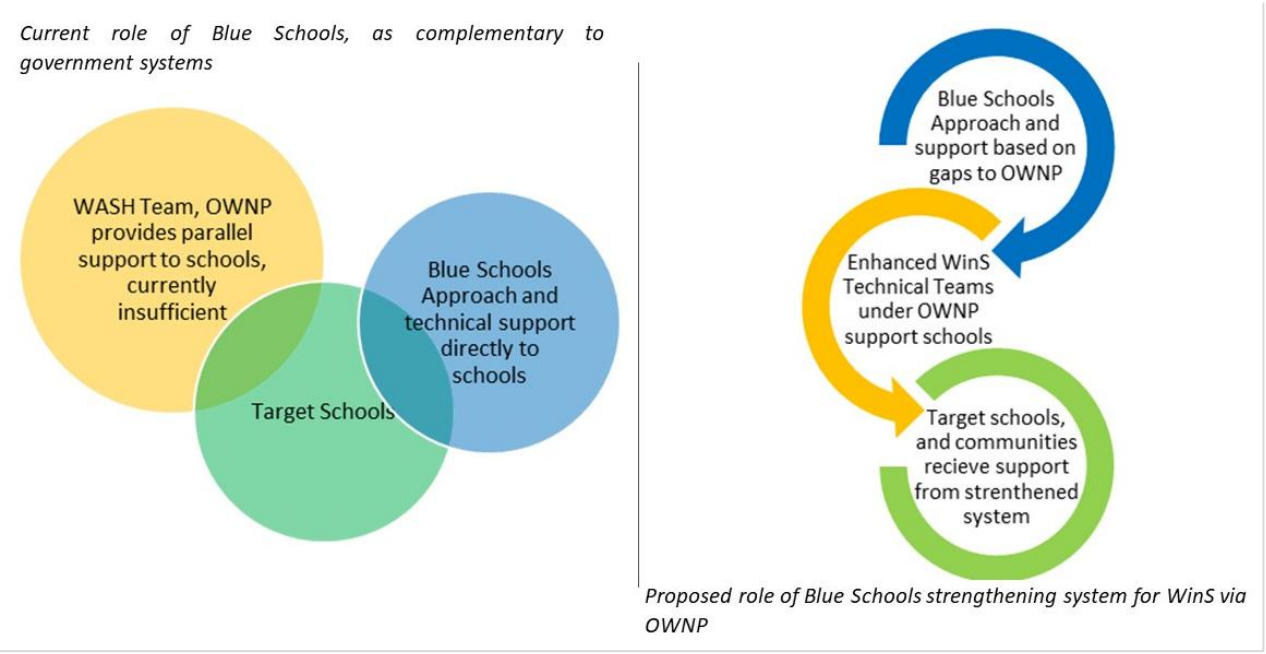
The overall assessment by the researchers was that the project stakeholders, the NGO, and the government worked well together, and the partnerships have been strengthened within the education sector. The projects were implemented in

close consultation with government partners, primarily the District Education Office. As such, it is very much aligned with the existing district plan of action and objectives of the sector, according to the district officials interviewed. The NGO staff worked with the district's agricultural office to choose the vegetables per the local ecology. The sourcing of required technical assistance for the activities and the consideration of the local context is considered strength of the project by the implementation teams **(process evidence).**

Another positive finding was the functionality of the school WASH Clubs visited. This is an important indicator and standard under the school improvement plan as part of the ESDP VI. The NGO teams worked closely with the school management, teachers, and clubs. The Blue Schools approach substantially emphasised supporting the school WASH clubs via teacher training. School WASH clubs are seen to be essential links for community mobilisation and passing information onward, according to students, school directors, and teachers interviewed **(process evidence)**.

However, while the Blue Schools project was said to be aligned, it was complementary to the OWNP's objectives because researchers noted it did not work directly with the ONE WASH offices at district, regional or zonal levels **(process evidence)**.

Figure 13: Current implementation arrangement and proposed implementation working in alignment with the One WASH programme.



Under the OWNP, NGOs are to provide technical assistance and support implementation, while coordination and facilitation are through the government. Contradictorily, Blue Schools NGO partners saw their roles primarily as facilitator. While government implementation arrangements with NGOs can be flexibly applied according to policy documents, clarifying roles and responsibilities is still necessary.

6.2.3 Monitoring and Evaluation

Level of Achievements of Output (Value evidence)

The project constructed WASH facilities at three schools in the Kofele district and availed a water tanker service and a 10,000-litre water reservoir to each of the three schools in Angolelana Tera district. At the same time, water points and a 28.8-kilometre pressure line and distribution system were constructed, with a 200 metric cube tank with a gravity flow system to the three schools in the Angolelana Tera district. The observation checklists and key informant interviews indicate that most schools achieved basic service levels for sanitation and only limited for water and hygiene. At the time of the visit, water service was interrupted and limited. However, at the time of writing report, researchers received video footage confirming that water supply is functional. This is currently operational with significant efforts and determination from the NGO partners ERSHA to see it through.

There were noted discrepancies in hygiene in comparison to FACET data where hygiene was reported as basic. However, when researchers observed the facilities, they lacked soap and water, making them limited. Overall, the greatest movement up the service ladder was with non-WASH components, where schools moved from no service to basic service, in reference to the chart below.

Figure 14: Ethiopia service levels outputs as observed in evaluation. Source: FACET Analyser for baseline data and field observations.

Component	Key Outputs	Baseline, FACET	Findings from the evaluation
	•Provision of three water reservoirs, in three schools, Kofele district, Oromia, •Expansion of piped water network and distribution points Angolelana Tera district, Amhara	•No service	•Basic
	•Construction of nine latrines for schools segregated for boys and girls, with teachers' latrines in Kofele district. •Establishment and support of school WASH Clubs in all the intervention six schools in Angolelana Tera and Kofele districts •Hygiene education training using CHAST and supplemented with Blue Schools materials: posters. •, Mini media in all the six intervention schools in both Angolelana Tera and Kofele districts	•Limited	•Limited
	•Construction of MHM facilities for girls in six schools •MHM clubs which include both boys and girls, to break down stigma and shyness. •Provision of pads for girls in six schools •Training of teachers and selected students in pad-making by local enterprise	•No service	•Basic
	•Establishment of school gardens in all six schools •Vermicomposting techniques in all schools and surrounding communities •Growing greenery and plants around in all six schools for beautification and protection •Tree planting	•Limited	•Basic
	•Promotion of rubbish collection from school environment in a fenced facility in all of six schools •Learning by doing principles of solid waste management in all of six schools	•No service	•Basic
	•Promotion of greenery and plants around the school, learning by doing, outdoor classroom in all six schools. •Training with teachers using Blue Schools Approach and kits for environment in all six schools. •Integration of environment components in science curriculum in all six schools.	•Basic	•Basic

The researchers noted improvements in latrine ratios in some schools. However, there are discrepancies in the FACET data reports for 2022 in comparison to research team observations in June 2023. The national standards are one toilet for 50 girls and one toilet for 75 for boys, if there are urinals. Only two schools have latrine ratios that meet national standards.

Table 8: School latrine ratios for the observed schools in comparison with baseline information from FACET analyser

Schools	Chatimena Wolensu, Oromia	Elefez Primary school, Amhara	Tulu Boke Primary School, Oromia	Hidase Full Cycle Primary School, Amhara	Embuacho Dega Primary School, Amhara	Kope Primary and Secondary School, Oromia
Baseline Latrine Ratio 2020	Not reported	Not reported	Not reported	Girls 1:468 Boys 1:442	Girls 1:397 Boys 1:203	Girls 1:31 Boys 1:37
Latrine ratio FACET 2022	Girls 1:48 Boys 1:41	Girls 1:50 Boys 1:70	Girls 1:32 Boys 1:40	Girls 1:202 Boys 1:195	Girls 1:179 Boys 1:185	Girls 1:26 Boys 1:18
The latrine ratio observed in the study using the enrolment numbers provided by schools	Girls 1:171 Boys 1:269	Girls 1:16 Boys 1:22	Girls 1:110 Boys 1:64	Girls 1:81 Boys 1:35	Girls 1:88 Boys 1:36	No school data collected

A notable point that validates the key informants' claim, as per the table below, is that three schools observed a decrease in drop-out rates and improved attendance. While further controlled studies would be required to determine Blue Schools' attribution, nonetheless, this trend is promising.

Table 9: Enrolment 2022 and 2023 with no dropouts from data provided by school principals, personal communication

School Validation of Key Informant's observation of improvements	2022/ EY 2014	2023/ EY 2015
Hidase Primary, School Angolelana Tera district	3	No drop out
Elfeze Primary School, Angolelana Tera district	2	No drop out
Chatimena Primary School, Kofele district	5	No drop out

Level of Achievement Outcomes (Process evidence and noted good practices)

Blue Schools activities were monitored through the district education office using a combination of checklists and quality assurance officers. The district education officials collaborated with school directors, trained teachers, and school clubs. District education officials noted that all the Blue Schools indicators were met, including other non-WASH Blue Schools components. They typically monitored how the planned activities were implemented per the plan of action, approaches and quality of implementation, utilisation of purchased items and how participatory the process was. District education office staff conducted monitoring quarterly. The school directors met with the trained teachers weekly to evaluate the progress of planned activities as a good practice. NGO teams, with the focal person assigned from the district education office monitored the Blue Schools implementation regularly. The supportive supervision by the NGO team facilitated onsite learning with the district and schools. For example, the district education office in Kofele developed a checklist that has WinS score points and receives reports from each school every quarter. Focal persons assigned at the district level are school supervisors or quality assurance officers, who monitor each school every quarter.

Notable good practices related to monitoring and reporting: **(Process evidence)**

- School monitoring checklists now include Blue Schools components. In the six schools, gardening practice, waste sorting, recycling, composting, and environmental activities like tree planting were now monitored.
- The Kofele and Angolelana Tera district education office added that they have developed a checklist with WinS score points and receive reports from each school every quarter.
- The schoolteachers reported having a checklist to monitor the changes in personal hygiene among students. However, given the general poor sanitary environments observed, a revision of the checklist is necessary as greater collaboration with the district health office, under the One WASH programme.
- Generally, the SWSC monitoring was more frequent, i.e., monthly, and comprehensive, than the standard government monitoring, which is quarterly.

The researcher observed that the monitoring needs to be more systematic and aligned with the district implementation arrangements which includes technical assistance from water, agriculture, health, and women's affairs offices.

The NGO and school stakeholders' impressions on cleanliness and sanitary conditions were more favourable than what was observed by researchers during school visits. This warrants a review of the WinS monitoring checklists and agreed standards. The researchers also noted that the WASH facilities in Oromia were more robust and aligned to national standards than those constructed by another organisation before the Blue Schools project in Amhara. The researchers found that where the boys' and girls' latrines were closely sited together both in Amhara and Oromia, this could lead to privacy issues for girls, and proposed that latrine siting for boys and girls, as a standard, should be farther apart in the future.

6.2.4 Budget and Finance

Two sources of budget are allocated for the schools: school guarantee and block guarantee. The Ministry of Education gives the school guarantee per student allocation, ranging from 12 to 24 Ethiopia Birr/ CHF 0.19-0.38. The block guarantee is provided through the district government. They issue a small non-earmarked amount of three to four Ethiopian Birr per student. Combining these amounts translates to about CHF 0.35 non-earmarked per child per year for all school operational expenses, including water, sanitation, hygiene, environment, and other needs. Some key informants cited

opportunities through the district water office and the district WASH teams, under the OWNP, for schools to access additional technical and financial resources.

From the costing sheets for the Angolelana Tera and Kofele districts, it emerged that the MHM rooms were constructed through community and school contributions. The project gave CHF 2000 for each MHM room constructed to top up the school and community contribution. Key informants from the schools and implementing partners noted that communities provided significant in-kind donations for the MHH rooms and also for purchasing or making menstrual pads. Sources for O&M beyond the schools' mobilisation have not been secured.

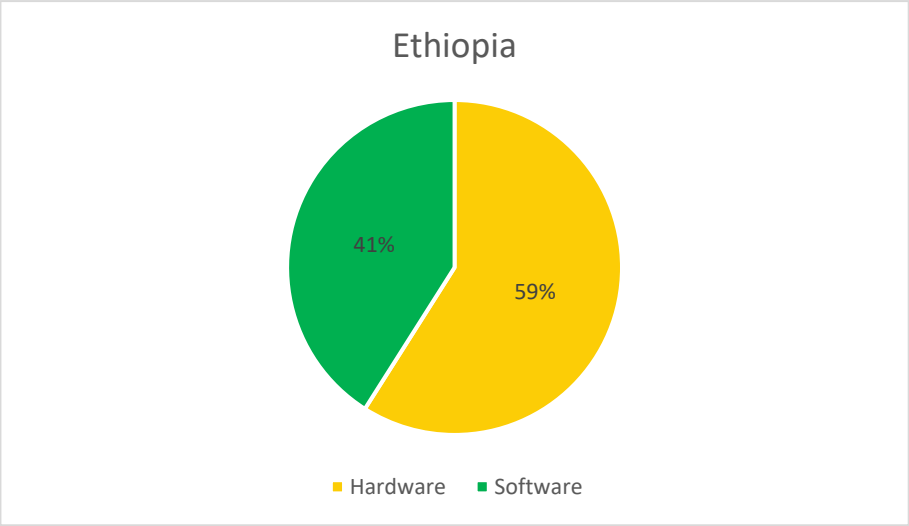
Table 10: Information on unit costs in Swiss francs for all Blue Schools in Ethiopia

In Ethiopia, six schools	Total School population		5800
Costs in CHF	Hardware CapEX	Software	Total
Total costs	88,168	60,559	148,727
Cost per school	14,694	10,093	24,787
Cost per student	25	10	15
Proposed/ estimated O&M sources	No source or estimate was provided		

Source: SWSC partners, Ethiopia costing sheet

Findings from the analysis of costing sheets provided by project teams for Blue Schools show that hardware and software costs are proportional

Figure 15: Proportion of hardware versus software costs, six schools. Source: Ethiopia SWSC costing sheets



Efficiency (Perceptions and Value to Stakeholders)

In Angolelana Tera District, the hardware costs were significantly lower than in Oromia. The enabling factor is the significant contribution by the communities of Angolelana Tera District in terms of material and labour, as the project did not have additional resources to spend, according to the NGO partners.

Given the nature of WASH allocations in schools, with no earmarked funding from the government, there is a significant reliance on community contribution and school income generation activities. The expensive hardware costs mean community contributions can only cover sanitation and hygiene or software, according to the district education officials interviewed.

The project components for pad making and vermicomposting have income generation potential, and this is one of the cited reasons that the district education and school officials feel that they will be able to sustain activities. Therefore, balancing activities that require a reasonable amount of community contribution with income-generation opportunities is a beneficial and cost-effective investment for schools.

There were a few cited examples of the schools and surrounding communities leveraging resources for the project activities. This is a very positive sign. For example, deliberate investment to hire cleaners for school latrines in Amhara Region Angolelana Tera District was a positive development for maintenance. However, the latrines were observed to be not sanitary. Other examples included building MHM rooms, a shed for pad-making workshops, and bringing water from nearby communities as gap measures when water supply was unavailable. Myriad of cited examples of leveraging community resources were noted for the project.

At the same time, the project was able to leverage additional resources from the government both technical and financial, and this led to the replication of the Blue Schools' practices to other areas. Notably, Angolelana Tera District education officials replicated the practices in other areas, meaning the actual per unit costs are lower those than presented above. Therefore, the costs and overall benefits for the Blue Schools in strict monetary value cannot be easily known.

Sustainability of outcomes and activities that leveraged or unlocked resources through the Blue Schools (Value and Process Evidence)

- In Chatimena school in Angolelana Tera District, the school principal and the district water office worked together to link the water pump to the electrical supply grid to make it affordable and ensure frequent running of the water supply. The project funds purchased spare parts and supplied them to the district water office to maintain and operate the system. In addition, a 10,000-litre plastic water reservoir tank was provided to store water to meet the school's water needs over a long period. They reported the involvement of the school clubs and PTA to sustain the services.
- In Embuacho primary Angolelana Tera District, a WASH Committee (WASHCO) was established to manage water at the school, and members were trained. The members consisted of experienced artisans and committed people in the community. This committee formation was done in collaboration with the district water office. The WASHCO are trained, statutory and legally recognised institution that manages water at the community level. The WASHCO create awareness of water management.
- The district education office in Kofele developed a plan of action and included the Blue Schools components of WASH, MHH, composting and gardening in the annual plan of action. They have also included the Blue Schools components in their report format. They also tried to scale the project components to other areas using the government budget.

The SWSC resources put in the schools have leveraged additional resources from the government and the communities. The budget is, therefore, proportionate to the costs and benefits, as the outcomes have led to spin-off activities within the communities. These have perceived and valued benefits for schools and districts to maintain.

6.2.5 Capacity Development

Perceptions (Value and Process)

According to the key informants, the focus on capacity building and the training related to all Blue Schools topics are considered the most vital part of the project. According to the NGO implementing partners, this was provided in two ways: 1) through training on specific components of the Blue Schools Kit and using Children's Hygiene and Sanitation Training (CHAST) and 2) outreach campaigns from the school to the communities. It was especially active in the Kofele district, where children included things like drama and music. The Blue Schools Kit is considered valuable given the gaps in the ESDP VI learning materials and because it includes overlooked topics, i.e., the term used by the Education Office to describe cross-cutting topics with low priority, such as gender, menstrual hygiene management and solid waste management and transformation of solid waste into resources. According to NGO partners and district officials, the environment and gardening topics are selling points for the Blue Schools approach, which has generated broader interest from the districts, zones, and regional education office.

Given the low subnational capacity cited, particularly at the school level, the Blue Schools approach aligns well with the needs and gaps. The CHAST approach was used as the training approach for WASH components supplemented with the

other Blue Schools Kit components. The CHAST and school-led total sanitation are the promoted methodologies for establishing and training school WASH clubs in national SWASH strategy. The NGOs trained the teachers on the learning-by-doing approach. Teachers incorporated the learning approach in school gardening activities, how to utilise the WASH facilities, and how to dispose of the solid waste in the school compound, for example. The teachers also used different teaching aids, such as IEC materials posters on MHH, sanitation, and hygiene and amplifiers, and worked through the School WASH clubs to do mini-media activities.

Teachers and education sector office staff were the main actors in leading the project process, implementation, and monitoring. The project team trained teachers and principals on the Blue Schools approach and how to facilitate the approach. The teachers themselves encouraged and implemented the Blue Schools activities with their students. They had received comprehensive training on all Blue Schools components with a specific reference to CHAST, MHM, WASH, gardening, and composting.

Blue Schools training components capacitated teachers to lead, facilitate and implement the approach, thus fostering local capacity to sustain the outcomes. The teachers reported having an easier time teaching students using the more practical teaching aids. The learning by doing also helped the school scale to the community and build its competencies. The researchers' observations found that through the information and awareness gained from the students, parents have replicated some of the learnings like gardening, composting and hygiene and sanitation improvements by constructing latrines, practising handwashing, and handling water safely.

In the beginning, there was an apprehension, especially by the education office authorities, that it would compromise the regular teaching and learning schedule. However, they were convinced of the benefits through discussion with the education officials and NGO partners and involving the officials in the teacher training.

Equally, teachers felt it could be an additional burden on their regular teaching responsibilities. However, through the process, they witnessed that the learning by doing (or the practical exercises) of the Blue Schools topics was effective in changing students' behaviour and practice, and they learned safe hygiene more quickly than through the theoretical teaching approaches they usually used. They also felt that the outdoor, informal class setting with students sitting on the ground and doing the practical exercises made even the students more active and willing to engage. The quick results in the learning approach were also a key selling point, as the teachers witnessed benefits immediately.

The District Education Office in Kofele and Angolelana Tera and the six school principals explained that the hygiene education components encourage students to practice inside and outside of the classroom. This engaged the families and the community in WASH improvements. Through the Blue Schools approach, they encouraged children to practice good hygiene behaviour in schools and children are also encouraged to promote the behaviour in their family members. Responses are summarised as follows**, (Value evidence):**

- Well-developed teaching materials for promoting WASH in schools, i.e., CHAST
- The environmentally friendly technologies and practices promoted in the Blue Schools Kit and CHAST materials
- The inclusion of considered neglected topics such as gender, menstrual hygiene management, solid waste management and the transformation of waste into resources, environment, and gardening.

6.2.6 Innovation

Project stakeholders identified the following innovations. These were primarily of technological or input nature.

Table 11: Innovations for Ethiopia

Activities	Results and processes
Fostering local private sector development to address the issue of school staff turnover to sustain pad making:	The project aimed to improve access to menstrual pads for female students. HEKS/EPER partnered with Mela for Her to train unemployed women to produce affordable and eco-friendly menstrual products. A memorandum of understanding was signed between schools, parents, and menstrual pad producers to ensure continuous access to menstrual pads for female students. (Process evidence)
Solar power for community campaigns by students	Solar power is provided to charge and use equipment like amplifiers or speakers. This equipment created awareness using

	mini-media and with school WASH clubs- dramas, songs, and poems. **(Value evidence)**
Increased revenue from school gardens in Blue Schools	Improved agricultural practices such as gardening different vegetables were scaled up to the community by identifying crops suitable for the local ecology. Revenue was generated in a few schools by selling their produce. **(Value evidence)**
Introduction of vermicomposting	The vermicomposting was valued, deemed relevant and scaled to the broader community. This was adopted by one model farmer in Amhara and reported to be replicated by others. The increased produce in a few schools is being used to purchase things for the schools, including sanitary pads. **(Value evidence)**
Renaming menstruation	HEKS/EPER raised awareness about menstrual hygiene among students and teachers, resulting in male students being more supportive towards girls and reducing teasing. Both male and female students have advocated changing the local name for menstruation from 'Monthly dirt' to 'Monthly flower', making a considerable difference in attitude. **(Process evidence)**
Taking learning outside the classroom	As cited by the teachers, learning outside the physical classroom changed the students' perception of the subject and encouraged them to engage in the lessons. **(Process evidence)**
The frequency of monitoring increases the prioritisation of district education officials on WASH	Frequent monitoring and reporting of WinS at district level increases its priority and improves the chances of inclusion in regular reporting to higher levels. This led to the identification of Blue Schools as model schools and their replication to other schools, resulting in improvement beyond just the WinS components. **(Process evidence)**
Flexibility provides a ground for innovation	Initially, contractors were to build latrines and water supply structures while project engineers supervised. However, Swiss Church Aid / HEKS/EPER suggested using in-house resources for the construction, with only skilled labour being contracted out. This approach resulted in lower costs and high-quality facilities. **(Process evidence)**

Figure 16: Sanitary pad-making enterprise workshop gives opportunities to repatriated migrant workers and for girls to stay in school, Hidase Primary school, Amhara Region. Photo credit: Kassahun Bedane

6.2.7 Strength, Weaknesses, Opportunities and Threats (SWOT) Analysis of the Blue Schools Approach in Ethiopia

Table 12: SWOT Analysis, Ethiopia

Strengths	Weaknesses	Opportunities	Threats
The Blue Schools approach fills the gap because the ESDP VI targets state what needs to be done, but it does not explain how it should be done.	Major challenges in accessing and sustain water supply in schools.	A myriad of policy and planning documents guide national and subnational implementation of WASH in schools that require dissemination to schools.	Soaring prices of fuel used to operate the generators for the borehole pumps General insecurity and unpredictability in some areas.
The Blue Schools project is comprehensive and based on national priorities.	Clarification of roles and responsibilities, esp. government roles, and the inadequate engagement of district water and health offices, under OWNP.	Angolelana Tera district officials impressively replicated components to 18 other schools, using their own funds and would like to do more schools. More districts could potentially do so.	Pervasive structural problems in the WinS sector, cited the in situational, analysis and observed in Blue Schools, related school management and lack of accountability
Blue Schools components are in the annual sanitation action plan and education sector monitoring indicators at the district level and there is replication within the district.	Unsanitary conditions of latrines in the visited schools, poor utilisation of existing WASH facilities and the handwashing facilities without soap observed, resulting in limited-service levels of WASH components.	Blue Schools Kit and CHAST materials are considered well developed and a selling for the concept at national level with Education Sector authorities, given the gap in school-level materials.	Inadequate government budget for water supply in schools, to improve the infrastructure and mainstream projects in other areas.
Vermicomposting, MHH room, sewing machine, and solar chargers, outreach activities were all appreciated project inputs which saw outcomes both in school and community and income generation opportunities.	Monitoring checklists exist but do not have accountability with government partners.	Evidence that girls' attendance increased, and drop-out and absenteeism decreased owing to MHH and sanitation initiatives could be used for further advocacy	Heavy reliance on community contribution and expectation that communities bear responsibilities for WinS.

6.2.8 Recommendations

Planning and policy: Adhering to standards

- Ensure the sustainability of water supply in all schools. Working through the One WASH programme at the district level will facilitate this collaboration with the relevant offices and partners.
- Latrine designs may require modifications if it does not facilitate easy use by young children. Working with the One WASH programme may facilitate best practices in design. Follow-up and improvement of the design of the school latrine (the squat hole design is not appropriate in the latrines observed in Amhara Region Angolelana Tera Woreda). Technical modifications, like latrine siting, should be coordinated with appropriate district offices.
- Where the MHM room is constructed with an attached latrine, and if the latrines are not clean, it becomes smelly. The design should detach rooms from the latrines and increase the room size. Collaboration under the One WASH programme will ensure that standard designs and best practices may be accessed.

Implementation Arrangements: Further engagement with One WASH

- The collaboration under the One WASH national programme may support a more comprehensive response to WASH components, bringing in technical and potential financial resources for schools and ensuring WASH design standards are met. While it is commendable that the project team facilitated teachers and district education officials, it is important to ensure that roles and responsibilities are aligned with national programmes and strategies and that the project works within these structures.
- Continue to take a holistic approach to improve the infrastructure of schools, working with relevant committees. A project collaboration beyond the education sector is required to access other services and expertise, i.e., WASHCO's with a legal mandate for water supply management, and artisans within the community for repairs, as some examples.

Monitoring and evaluation: Review and integrate monitoring checklists

- The review of the project and government monitoring checklists and standards for hygiene and sanitary conditions is necessary to ensure minimum standards are agreed, understood and are being met. The behaviour change- cleanliness and management elements need further elaboration in training and monitoring. How to translate awareness into consistent behaviour with existing facilities requires attention at the school level, but also at supervisory levels such as districts and zones, as part of the school improvement plans. The project teams could work with the government to come up with revised checklists which address current shortfalls such as defining cleanliness, and proper use.

Capacity Development: Widen collaboration and learning

- Consider possible collaboration with appropriate departments in the district which can support business development, youth and women empowerment for additional funding and technical assistance such as with the district enterprise development office. This will support improvements in the supply chain and expand pad-making initiatives
- Conduct an advocacy and learning workshop at zonal and regional levels to further replicate and include the Blue Schools approach as part of sector development plans. A good place to start would be for NGO implementation teams and district officials to present the approach at the joint sector reviews or multi-stakeholder forums for WinS.

6.2.9 Human interest story: Woldye

Mr. Woldye Ayele, a 50-year-old farmer, lives with his five family members in Weberi Yalekelat village, Tsegereda kebele, in Angolelana Tera district. His son Zenebe Woldye, aged 13, attends Hidase Primary School in the Angolelana Tera district. Through Blue Schools' practical learning and demonstration on the school garden, Zenebe got training on vermicompost preparation. Because his father is considered a model farmer in the village, he shared the school gardening and vermicomposting lessons with his father. His father agreed to try it on their farm and then contacted the school and agricultural office for more information and training.

After training, Mr Woldye Ayele prepared and applied vermicompost on barley and nug (an oil seed plant) on their farmland. He explained that there was an immediate and visible difference in the productivity of barley and nug compared with inorganic fertilisers. He could earn an additional 30000 ETB or CHF 478 in one season, reducing their cost and reliance on inorganic fertiliser. He explained that this is relevant because there is currently a fertiliser shortage in the district and using vermicompost helped produce crops instead of leaving the lands bare. After observing his success, three other farmers proactively went to get training from the agriculture office and applied it in their farmland. Another 20 nearby farmers have asked Mr Woldye Ayele to support them in learning about vermicomposting. As a model farmer, he facilitates the connection to the district agricultural office and the NGO partners to provide training. He is confident that he will continue to use vermicomposting and link other farmers to learn about it because he is convinced of the benefits for the community.

Figure 17: Mr. Woldye Ayele was a model farmer. Photo credit: Kassahun Bedane

This case study highlights two critical underlying points:

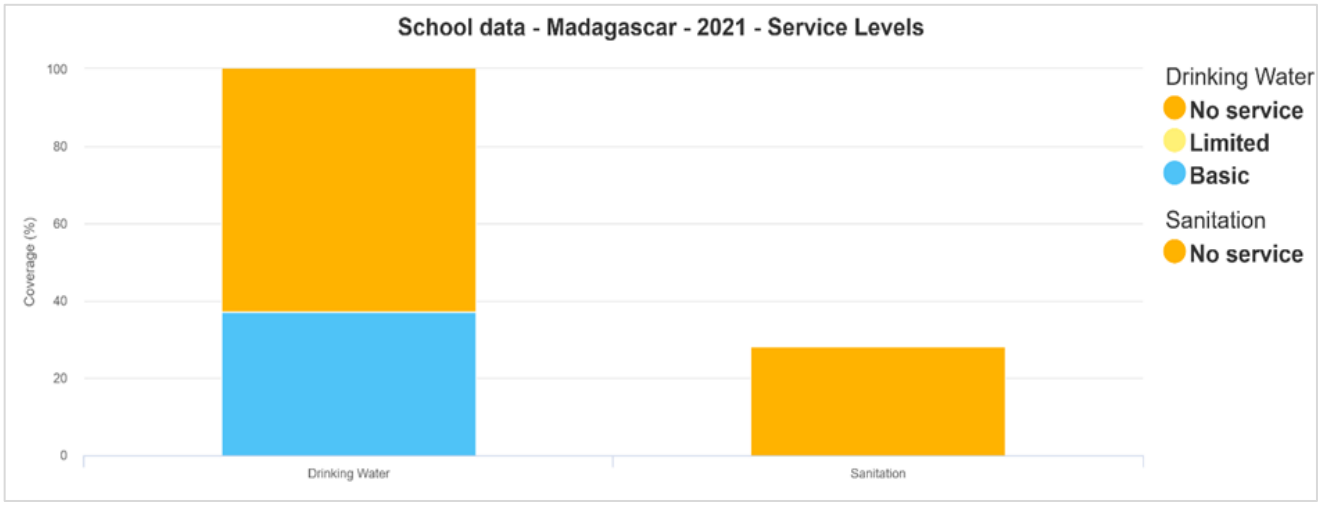
- Students can influence their families and communities when good standing relationships are established between the schools, agricultural offices, and districts. Mr Woldye Ayele was able to receive follow-up training from the agricultural office because of the facilitated relationship between the school and the agricultural office by the NGO partners. This ensured credibility and provided suitable technical support to the farmers.

  Mr. Woldye Ayele was a model farmer, so he is naturally open to learning from others, including his son. The learning-by-doing approach that his son received to understand vermicomposting made it easier for him to explain and show his father. Practical demonstration gives children the tools, confidence, and enthusiasm to share with others.

6.3 Blue Schools in Madagascar

According to the JMP 2019 report by WHO and UNICEF, 63% of schools lack water services, while 28% lack sanitation services in Madagascar. There is no information on hand hygiene or hygiene services. Noting there is insufficient national data for sanitation and hygiene in schools, the Ministry of National Education, MEN, estimates only 2% of schools in the Betioky and Ampanihy area have WASH infrastructure that meets basic service levels.

Figure 18: National WinS Service Levels, Madagascar. Source: JMP 2022

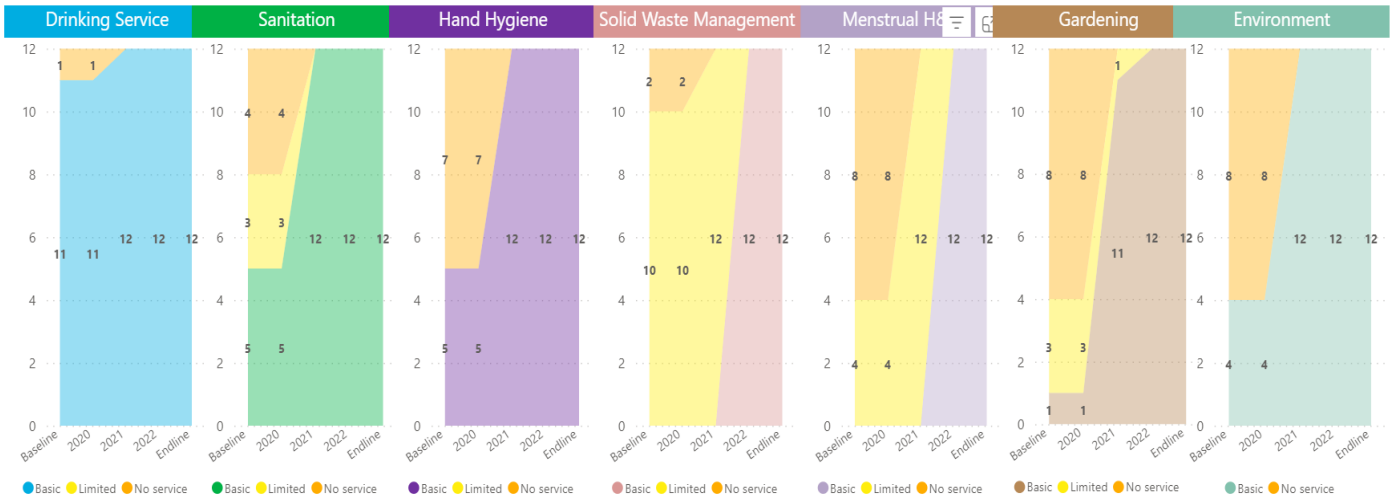


The Blue Schools Approach in Madagascar was initiated in 2013. The implementing NGO partners, Fastenaktion and Taratra, work in the deep south of Madagascar, Atsimo Andrefana Region – Betioky and Ampanihy Districts. It is in a semi-arid zone where rains are limited to 400 to 500 millilitres yearly, with pervasive drought and frequent famine periods. Hence, there is a high reliance on groundwater sources. Seasonal heat waves threaten facilities and crops.

The Rano Aina III project integrated the Blue Schools approach expanding its reach to 12 communities and schools in the same area. The project has the overarching objectives of improving the living conditions of the most vulnerable through increased access to sustainable drinking water, sanitation, and hygiene services.

Fastenaktion's Tsinjo Aina project has been well-established in the districts for over 15 years, and Taratra has been working with the Swiss Water Consortium since 2011. Taratra has supported the authorities in two communes to draw up a Communal Water, Sanitation and Hygiene Development Plan (PCDEAH). As Phase III is a continuation and extension of the activities of Phases I and II, implementation has remained in the same project intervention areas, i.e., the districts of Betioky and Ampanihy. The schools were selected by a committee of representatives of the local education and administrative authorities. The main eligibility criterion was the unavailability of water infrastructure. Schools built by the community and state schools were chosen to ensure equitable benefits for the children.

Figure 19: Service Levels, 12 Schools. Source: SWSC Microsoft Power BI



There has been marked improvement in the 12 Blue Schools in Madagascar. All schools are now achieving basic service levels, as per the SWSC indicators, based on annual and semi-annual reports[10].

The specific components of the Blue Schools project are:

1. Provision of water supply
2. Provision of disaggregated toilets for boys and girls
3. Provision of handwashing facilities with available soap/ash and water
4. Provision of MHM facilities, education, and establishment of clubs for girls and girls
5. Solid waste management with waste bins
6. School gardening under sustainable agriculture
7. Sustainable land and water- including tree planting and national efforts.

6.3.1 Policy and Planning

Alignment with national policies and priorities

The WinS programme and environmental education are essential in the Madagascar education system as they are national and presidential priorities. They are outlined in the '13 presidential Velirano' or '13 presidential commitments', especially n° 2, which concerns universal water access, and n°10, which regards the safeguarding of the environment. These commitments are enumerated in the 'Politique Générale de l'Etat' (PGE).

According to the MEN, the ministry's current structure reflects the priority allocated to the WASH programme and environmental education. The DEFPE (Department of Basic Education and Early Childhood) and the DEMC (Department of Mass Education and Civics) are responsible for WinS and environmental education in schools, with the SSAS (School Health and Food Service) being affiliated with them.

WinS remains a priority for the MEN due to the inadequate access to water and sanitation in schools for children. Additionally, the DEMC initiated the '1 pupil, one tree' campaign in partnership with the MEDD (Ministère de l'Environnement et du Développement Durable) to provide seedlings for reforestation drives. Although WinS is a priority, the MEN does not have a dedicated policy document. Instead, the 'Technical Guide for Setting up a WASH-Friendly School' guides planning and execution. The MEN and development partners developed this document in 2019 to detail the process, steps, and conditions required to establish and define a WASH-Friendly School. In 2021, the MEN and the MEAH (Ministry of Water, Sanitation and Hygiene) signed a memorandum of understanding: the 'Protocole d'accord dans le cadre de la promotion de l'eau, assainissement et Hygiène en milieu scolaire11', namely a Memorandum of Understanding for the implementation of WASH-friendly schools.

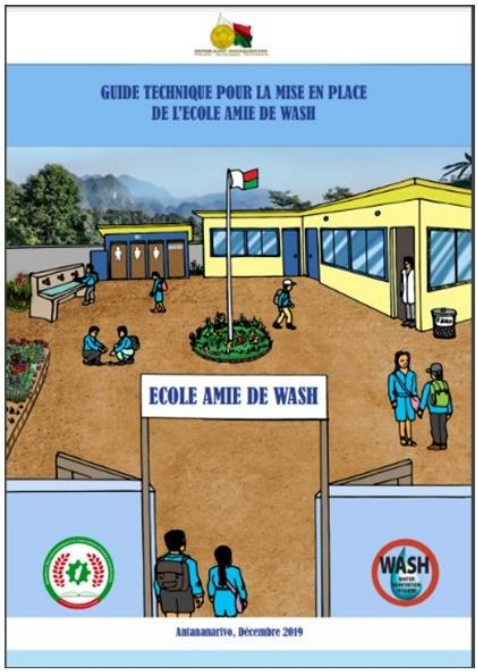
Level of achievement of outcomes (Value evidence)

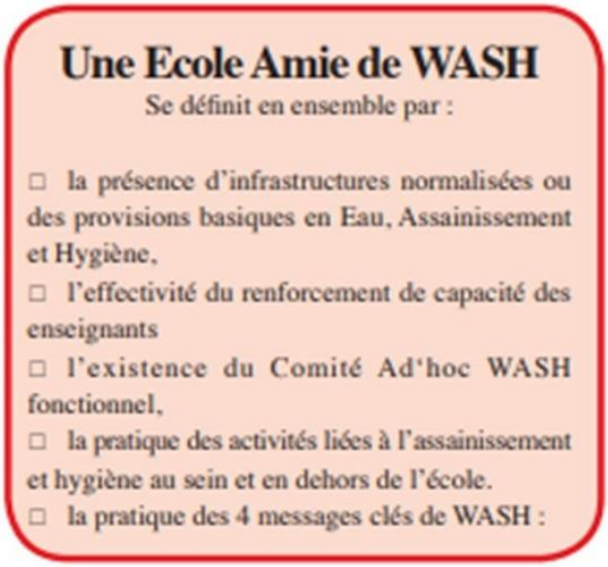
The Blue Schools approach has enabled more than 4,100 students in 12 schools to access improved water, sanitation, and hygiene services. The Blue Schools approach has implemented the '1 pupil, one tree' campaign and has adopted waste management and environmental protection approaches. The Blue Schools approach is entirely in line with this national priority. It contributes to improving access and changing the behaviour of the school community about water, sanitation, and hygiene. It has covered all the instructions in the 'Technical Guide to Setting up a WASH Friendly School[12]', and the Blue Schools meet all the conditions required to merit the WASH Friendly School Level III title, the highest equivalent to UNICEF's Three Stars. The criteria are as follows:

1. The infrastructure meets national standards, aligned with the JMP scale of improved water and sanitation services managed safely.
2. The school community adopts good behaviour in hygiene: environmental, household, personal and food,
3. The school population raises awareness in the community, even informally,
4. The sustainability mechanism is operational, such as the WASH committee implements an action plan enabling the school to achieve a higher level of performance or at least maintain the level it has already achieved.

[10] Reference SWSC FACET and Microsoft Power Bi
[11] Madagascar Annexe 8
[12] Madagascar Annexe 7

Figure 20: Technical guide to setting up a WASH-Friendly School; cover and extract. Source: MEN





Most components of the Blue Schools approach align with the technical guide for implementing WASH-Friendly Schools. However, the guide gives less emphasis on certain aspects specific to the Blue Schools approach, such as solid waste management and recommendations for teachers to incorporate WASH in different subject lessons. There is no explicit mention of environmental activities, but it is implied through the focus on cleanliness and hygiene. The Blue Schools Kit and hands-on learning remain unique to the Blue Schools approach.

The Blue Schools approach's components have been effectively implemented by teachers, signifying some level of integration in schools. This integration is limited in scope and has not been officially mandated. It is important to note that the official educational curriculum is the responsibility of the Direction des Curricula et de Recherche Pédagogique (DCRP) of the MEN, and any modifications or revisions to the curriculum require their approval.

As outlined in the technical guide for establishing a WASH Friendly School, central, regional, and district officials must incorporate all WinS-related activities into their annual work programme. The officials representing the Ampanihy and Betioky CISCOs who were interviewed had yet to integrate WinS into their yearly work programme. Additionally, they lacked the Technical Guide for establishing a WASH-friendly school. Another issue they confront is that the budget associated with their annual work plan may not be available until 15 to 20 months later.

Relevance and Sustainability (Perception and Value)

> *"The Andranomena Mahasoa Blue School has become a model. All the others now want to go 'Blue' They are encouraged to do so. You can start with what's with you . . . [and what you] know. Don't wait for infrastructure or future projects to start your change".*
> - EMAHAZEHATSE Bertrand, District Education Official, Betioky II, Madagascar

The Blue Schools approach is seen by stakeholders, including parents, as highly relevant to the school and students' needs. All have expressed enthusiasm and satisfaction with how the Blue Schools approach has helped them achieve holistic improvements and transformative impact, providing them with knowledge of WinS and environmental topics. This has galvanised local stakeholder support and built trust on the principle of transparency: all knowledge, information and data are shared in the committees. Observations on the ground have corroborated stakeholder stories, as evidenced by the availability and functionality of WinS facilities, waste management practices, and schools' general adoption of cleanliness. This starkly contrasts an average school in Madagascar, where poor access to water, sanitation, hygiene, and littering are commonplace. It also attracts children to the school because of the pleasant environment, making them want to remain there.

The Blue Schools approach is relevant and essential, especially concerning MHM cubicles for girls for privacy. These facilities have led to significant cultural shifts, particularly regarding menstrual health and hygiene, potentially influencing other traditional practices. "The tradition is for parents to wed their daughters at a very young age (around 13-14 years). However, we anticipate that the Blue Schools will gradually transform this," explained the head of ZAP for Betioky II.

The sustainability of the Blue Schools approach is promising. All local stakeholders, from CISCO officials to school management committees and teachers, have reaffirmed their commitment and confidence in the sustainability of the results, citing as motivation, the transformative change and positive benefits for the schools and their students which has a ripple effect on the communities. Described as a catalyst for development, the approach has gained the support of local administrators.

The CISCO managers interviewed committed to fulfilling their roles and responsibilities towards the schools, particularly regarding monitoring and supervision missions, which will aid in sustainability. All ZAP managers expressed willingness to continue supporting the Blue Schools Committee to maintain the operation. To this end, they suggested continuing to promote sharing experience and knowledge among teachers through regular meetings and pedagogical days, assist head teachers in formulating their eligible expenditure (for the FEFFI fund) and include a line for WASH provision, and frequently visit and provide support to the Blue Schools as required.

Sustainability shows potential but is vulnerable. Though verbal commitments have been made, not all have been put into practice or plans, particularly by the local education authorities who hold the primary responsibility.

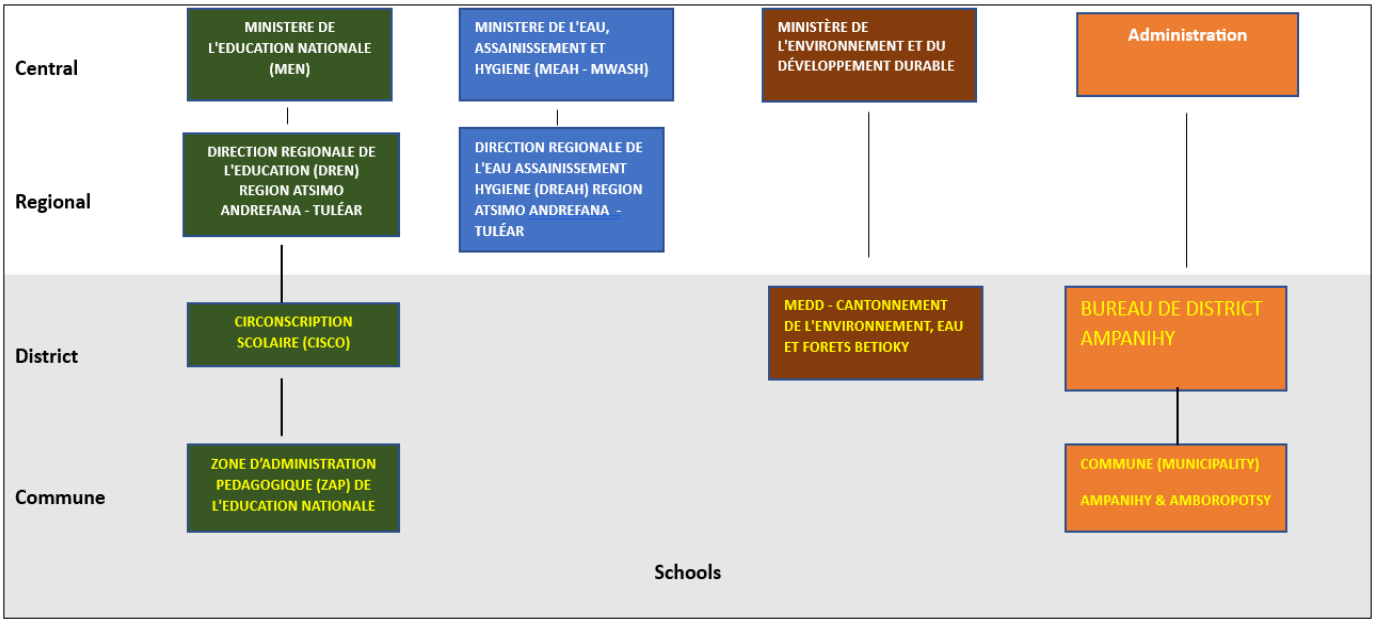
Figure 21: Meeting with Chef ZAP of Amboropotsy (left) and of Betioky Centre and Betioky II (right). Photo credit: Nicole Andriamampianina and Taratra

6.3.2 Implementation Arrangements

Responsibilities among Ministries:

- The WASH Friendly Schools Technical Guide states that the **Ministry of Education** is the primary responsible institution, with technical support from the Ministry of Water, Sanitation and Hygiene and the Ministry of Health.
- The **Ministry of Water, Sanitation and Hygiene**, at all levels, is explicitly responsible for providing technical assistance, monitoring, and certifying schools by established standards.
- **The Ministry of Health** is responsible for providing technical support. NGOs, development partners and the administration at all levels should give financial, technical, and supervisory support.

Figure 22: Implementation arrangements: the yellow font represents the partners that the Blue Schools Project actively engages with in Madagascar.



Overview of roles as per national guidelines:

- The specific roles articulated in the technical guide are the **central, regional (DREN) and district (CISCO)** levels must ensure that WinS is integrated into their annual plans. They should support coordination at the respective levels and work on advocacy, monitoring, and research in collaboration with partners.
- **The ZAP** is directly responsible for training teachers and other key players. School principals, teachers, and the WASH committee are responsible for implementation at the school and community levels.
- At the commune, school and village level, the focus is on implementation, supportive supervision, training, dissemination of messages and mobilisation.
- **WASH** committees are responsible for infrastructure management.
- The parents convene in a formal school committee. It has an 'executive committee,' member roster, fees, and record-keeping system, including routine meetings and elections. The committee's primary responsibilities include upkeep and repair tasks (such as constructing fences around the school property), paying dues, and procuring consumables (e.g., soap, sanitary products, brooms).
- **The NGO** partners support schools and communities in implementing and monitoring activities and coordinate with district and municipal authorities.

Findings (Value evidence)

The Blue Schools are aligned with the roles and responsibilities defined in the WASH-friendly School guide. However, the focus is at district, commune, and school levels.

Government

- The role and responsibility of the ZAP leader currently consists of raising awareness among school principals about infrastructure protection and maintenance. They do this during monthly meetings or when the ZAP manager visits a school. **(Process evidence/ good practice)**
- CISCO Ampanihy also mentioned that UNICEF, World Food Programme (WFP), and NGOs such as Taratra, Adventist Development and Relief Agency (ADRA), Action Contre La Faim (ACF), SAHI are implementing projects in the district. There are not yet regular coordination meetings with CISCO. While duplication is possible, authorities felt what each organisation is offering is complementary and contributing to better access to basic water and sanitation services. The Blue Schools approach has had some collaboration with ADRA/ ACF for the supply

of seeds and with CSO/ WWF for the collection of seedlings for reforestation. There was no formal agreement with the WFP concerning the canteen, but the water supply provided by TARATRA in the schools supports the canteen provided by the WFP.

NGO

- As for Taratra, it was structured so that each member was assigned one or two topics to become a thematic focal point and to be the *go-to people* for those specific themes. Along with the project team, the primary players were at the school level, such as principals, teachers, and students. Each thematic focal point is accountable for informing and instructing the teachers. The teachers have conducted practical training with pleasure from the students. The approach has proven highly effective in engaging students and enhancing their learning outcomes. The teachers reported greater focus and motivation among students, underlining the efficacy of practical learning. All stakeholders who participated in this research confirmed that, to some degree, implementing the Blue Schools approach and the exceptional work conducted by the Taratra team have resulted in positive changes. The Taratra team is highly regarded for their expertise, continuous assistance, and local involvement. **(Process evidence/ good practice)**

Blue Schools Committee

- The project has facilitated the establishment of Blue School committees. Their purposes are two-fold: i) to secure the longevity of activities and outcomes by engaging all parents, teachers, students, and communities, and ii) to engage in advocacy with local councils.
    - The Blue Schools committee differs from the standard school committee, comprising parents, some teachers, the school headmaster, and students.
    - The committees are managed by parents, who hold all management positions, such as chairman, vice-chairman, treasurer, and secretary. Generally, these parents possess literacy and numeracy skills, including basic arithmetic, such as addition and subtraction. If they require assistance, the principals and teachers can provide support.
    - The parents exhibit a strong sense of duty and ownership, even though many lack formal education. They take pride in the school and the opportunity it provides for their children's education. Parents willingly volunteered.
    - Notably, the Blues Schools committee stands out due to the intentional inclusion of women. Although the women currently hold advisory positions rather than executive ones, they are highly engaged and share their opinions openly and candidly. This is a departure from the norm in other school committees, which tend to be managed traditionally, with men exclusively at the helm and women occupying a lower status. Women are often seated on the ground, at a lower position than their male counterparts on chairs, in a symbolic gesture and are seldom heard speaking in such settings. In the Blue Schools committees, women and men notably sat on chairs. **(Process evidence/ good practice)**
    - The Blue Schools committees have expressed their confidence and commitment to operating and maintaining the facilities. An annual work plan has been created for this purpose. Taratra's managers have connected the schools with local operators, such as masons, plumbers, and vendors of hand-washing equipment, to carry out future maintenance**. (Process evidence/ good practice)**

6.3.3 Monitoring and Evaluation

Level of Achievement of Outputs (Value evidence)

The Blue Schools facilities and activities were implemented between 2020 and 2023. As shown in the table below, all four visited schools met the basic service targets set by the UNICEF-WHO Joint Monitoring Programme (JMP) and the SWSC, based on the observation checklist adapted from the service areas and indicators predefined by FACET.

There were minimal discrepancies in the FACET data compared with the researcher's observations. Many non-WASH components started with limited levels of service, such as in solid waste, gardening, and environment, likely owing to activities within the school curriculum and the long-standing projects within the neighbouring communities. Notably, water supply was available in the schools at the start of the project.

Figure 23: Madagascar service levels outputs as observed in evaluation. Source: FACET Analyser for baseline and researcher's observations for endline.

			evaluation
	•Provision of water supply system or rainwater harvesting •Testing of water quality to ensure safety for consumption •Expansion of piped water network and distribution points •Training of teachers on safe water, water treatment and storage	•Basic	•Basic
Sanitation & Hygiene 	•Construction of toilet blocks for schools segregated for boys and girls, complete with wheelchair access, a water treatment system, and sanitary pad disposal bin attached to the girl's toilet •Provision of handwash facilities attached to the toilets, •Provision of boy's urinals	•Limited	•Basic
	•MHM education which include school management and teachers WASH clubs which include both boys and girls, to break down stigma and shyness •Provision of sanitary pads for girls	•No Service	•Basic
	•Training of teachers using the Blue Schools kits, water cycle posters •Establishment of school garden, Keyhole gardens •Growing vegetables for food and income generation •Plants in school for beautification	•Limited	•Basic
	•Waste sorting and management (existing of 3 different holes) •Training of teachers using the Blue School Kits	•Limited	•Basic
	•Planting of greenery and plants in and around (fence) the schoolyard •Training on water cycle – Posters displayed in every classroom •Reforestation activities	•Limited	•Basic

In relation to sanitation and latrine ratio, as depicted in the table below, all schools meet the national ratio standard of 1:100 for girls and boys except for Ampakabo Primary School.

Table 13: School latrine ratios for the observed schools in comparison with baseline information from FACET analyser

Schools	ECOLE PRIMAIRE PUBLIQUE AMPAKABO, Betioky Centre, Betioky	ECOLE PRIMAIRE PUBLIQUE ANDRANOMENA MAHASOA, Community school Betioky II, Betioky	ECOLE PRIMAIRE PUBLIQUE AGNARAMAIKA, AMBOROPOTSY	ECOLE PRIMAIRE PUBLIQUE AMBOROPOTSY, AMBOROPOTSY
Baseline Latrine Ratio 2020	Girls 1:130 Boys 1:166	No report	No report	Girls 1:33 Boys 1:22
Latrine ratio FACET 2022	Girls 1:164 Boys 1:90	Girls 1:35 Boys 1:27	Girls 1:33 Boys 1:24	No report
Improved toilets, which are usable and single sex were observed	Girls 1:109 Boys 1:135	Girls 1:35 Boys 1:40	Girls 1:33 Boys 1:35	Girls 1:84 Boys 1:95

For inclusion, the WinS facilities in Blue Schools have been built to cater to wheelchair users. The schools, interviewed parents and students reported that all disadvantaged groups, including children with disabilities benefit the facilities. However, no disabled students were present during the visits to these schools.

Level of Achievement of Outcomes

Field observations showed that all facilities were functioning, well-maintained, and in daily use. Other facilities built by the schools outside the project, such as a communal hand-washing facility or playground, are also in good condition, demonstrating good school management. The researcher felt that the facilities' design contributes to their sustainability, because WinS facilities appeared well-designed and of good quality.

Perception (Value and Process Evidence)

The Blue Schools approach is seen as a blessing for the local population, according to respondents. The most significant changes are sustainable access to water, both in quantity and quality and the habit of regularly washing hands. Secondly, schools can now openly discuss menstrual hygiene, relieving girls from concerns about managing their periods while at school. Most girls can access showers at home, even if they are rudimentary, as fathers have constructed them for their daughters and mothers. A survey by the Taratra team revealed that 87% of households near schools possessed a shower (52 out of 60 families). This marks a significant milestone in a region steeped in deep-rooted traditions. The interviews with students and parents confirmed the intervention's beneficial effect on the knowledge and behaviour of both boys and girls. Thirdly, people enjoy cultivated vegetables, including pumpkins, aubergines, courgettes, cucumbers, onions, tomatoes and more. As a result, some households said they no longer purchase produce, allowing them the opportunity to save some money or allocate funds elsewhere. The 'keyhole garden' technique has substantially impacted all four schools and the surrounding communities, including communal farming areas, where it is regarded highly for its water conservation benefits. The school gardens are meticulously looked after collaboratively with schools and community volunteers. The harvested crops are utilised in school canteens and sometimes sold in the markets to generate income.

They experience the severity of climate change. Reforestation is one of the solutions being implemented. Gradually, waste sorting and recycling are becoming routines in schools, using the three-waste bin system in their playgrounds for efficient waste disposal. Other aspects that the Blue Schools approach has undertaken include planting trees, installing swings, and creating small flower gardens with geometric arrangements. These facilities also used recycled materials creatively.

Integration of monitoring and reporting in local government processes (Process evidence and weaknesses)

For Betioky and Ampanihy, the Annual Operational Plan (AOP) created at the start of the year is made into a monthly work plan. The Blue Schools' objectives and tasks were indicated in the plan. However, the plan does not have monitoring checklists or forms that the focal points in schools or districts could utilise. The national manager of Taratra confirmed the existence of these monitoring forms but explained that they are not used consistently.

The Blue Schools approach has weaknesses in its monitoring and reporting system. None of the education authorities interviewed mentioned using a formal reporting tool when reporting project activities and achievements. The school health and nutrition department at the district level is typically responsible for overseeing WinS and providing reports on it. However, reporting on the Blue Schools project was either verbal, limited to the local level, or absent altogether. The ZAPs and CISCOs did not feel adequately engaged in reporting formally, and Taratra opted to focus on district-level reporting over central-level reporting. They believed that the central level is too far from the project and may have assumed that it is the responsibility of the district officials to report to the central level. The regional WASH and Education authorities were informed about the project and its progress at intersectoral coordination meetings. However, those in charge at the central level, MEN, were unaware of the Blue Schools approach.

The MEN has a highly decentralised structure, with education representatives at every administrative and territorial division level, making it uniquely advantageous for reporting and monitoring. However, this decentralisation poses a challenge for the monitoring system because the flow of information takes a considerable amount of time for data to reach the central level, resulting in delayed or non-existent analysis. DEFPE reported that the Ministry's M&E system is still experiencing operational challenges. Consequently, the MEN and its partners are collaborating with the World Bank to establish a more efficient M&E system.

6.3.4 Budget and Finance

Table 14: Information on unit costs in Swiss francs for all Blue Schools in Madagascar, source: SWSC costing sheets

Madagascar, 12 schools	Total School Population		4187
Costs in CHF	Hardware CAPEX	Software	Total
Total costs	54,537	61, 673	116,200
Cost per school	4544	5139	9683
Cost per student	13	15	28
Proposed/ estimated O&M sources	National government 2.5%	Project funds, 4.5%	Parents, 93%

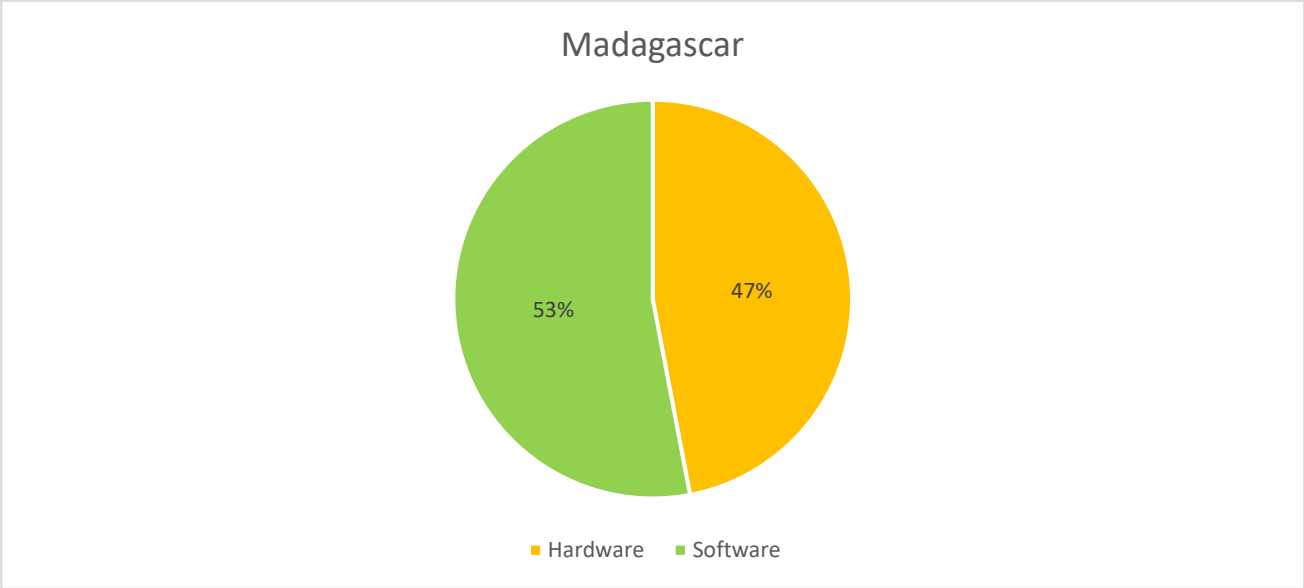
Blue Schools Costs:

- Based on the figures[13] provided by Taratra, the total cost per Blue Schools is approximately CHF 9,683, with an average cost per capita of CHF 28. The cost calculations included Taratra' s administrative and project management costs; refer to the costing sheet in Annexe 4.1. The schools' contributions are in-kind, such as locally procured materials and unskilled labour.
- The budgets appear proportional to the costs, considering the spin-off activities and the resources that schools mobilise through community contributions. Community contributions are a significant enabling factor estimated at 11% of the hardware costs.
- As for the operation and maintenance of the facilities constructed in the Blue Schools approach, Taratra approximates the WASH supplies and consumables cost (such as soap, disposable towels, brooms, buckets, and brushes) to be about CHF 51 per year. The maintenance expenses are around CHF 5 per year, totalling CHF 56 per year per school. It is estimated by Taratra that 93% of O&M costs will be covered by the community. This puts a heavy reliance on parents and the community to shoulder costs.
- With an average of 348 students per Blue Schools, the operation and maintenance calculation equates to CHF 0.16 per pupil per year. The FEFFI (school functioning fund) provided by the government and referred to by the DEFPE as amounting to approximately CHF 1.78 per pupil should, in theory, cover WASH operating and maintenance costs. However, the school principals who manage the FEFFI have indicated that this fund must be used to meet other school priorities, such as purchasing chalk and other essential supplies, and that the fund rarely reaches them at the beginning of the academic year.
- No significant cost differences were observed among the visited Blue Schools regarding implementation. This includes WASH programme activities in schools, training for actors and stakeholders, behaviour change initiatives, infrastructure, and equipment. The only variations were added expenses to travel and transport materials to remote schools.
- The stakeholders report a favourable cost-benefit ratio. Significant emphasis is placed on the tangible improvements to schools, including higher attendance rates and increased pupil concentration, and the perceived benefits to communities. The addition of water points in village communities has resulted in the implementation of the Blue School programme, with the availability of water serving as the primary selection criterion for schools to become 'Blue'.

Hardware and software CapEX are almost a 50:50 ratio, which is not common for WASH projects. This is likely because most of the water infrastructure was already installed at the start of the project and the community provided a large amount of in-kind donations such as materials and labour. While, estimated at 11%, the true of community donations is not easily calculated.

[13] *Note: This figure applied to all Blue Schools in Madagascar, 12 schools and 4178, people: (including students and teachers)*.

Figure 24: Proportion of hardware versus software costs, 12 schools. Source: SWSC CACH Costing sheet.



Government Sources:

- The MEN stated that it lacks a specific budget line for constructing or renovating school WASH facilities. However, they emphasised that new school constructions must include the provision of WASH facilities for students, meeting standards set by the MEAH in terms of dimensions, number of cubicles according to the number of students, etc.
- The absence of a MEN budget for Blue Schools activities reduces the opportunities to leverage funds from the district education office. However, community contributions have positively affected leveraging local financial administration support.
- The MEN has clarified that the 'manarapenitra' schools (schools under presidential projects) constructed recently have been financed from the Presidency's budget, not the ministries. MEN's 'infrastructure' budget primarily caters to the expenses of expanding classrooms and constructing or refurbishing 'non-manarapenitra' schools. In short, government funding has limited allocation- which translate to also limited funds for Blue Schools components.

Blue School Committee Fund:

- The primary objective of the Blue Schools committee's fund is to finance the school's operation and maintenance expenses. The fund comprises monthly parent contributions, income from the sale of school-grown vegetables, support from the community (membership fees or donations) and the town councils' budget allocation (already granted). For each of the Blue Schools visited, the funds collected surpass the budgets. Therefore, the funds should cover the procurement of necessities and repairs in case of breakdown. Operating and maintenance are not problematic, as a portion of project funds is available. Since the WASH infrastructure is new, there has been no requirement for substantial repairs. **(Sustainability process evidence)**
- The Blue Schools committees have received support and guidance from Taratra in lobbying municipalities for financial contributions. Some councils have already committed financial backing to the Blue School committees. The Amboropotsy town hall has committed to providing 100,000Ar (CHF 23) per year per school for WASH operation and maintenance, while the Betioky town hall has made a similar commitment, although the specific amount has not yet been determined. Furthermore, ZAP officials have committed to sustaining their assistance in raising awareness among these committees. **(Sustainability process evidence)**

6.3.5 Capacity Development

The Madagascar WASH Friendly Schools Technical Guide states schools should focus on hygiene education and the practical integration into the school curriculum. Students are also responsible for using the facilities correctly and disseminating messages to the community.

School Level Training (Value evidence)

- In the Blue Schools approach, it was up to the stakeholders involved, i.e., the education officials and the teachers, to choose the kit elements to be applied. However, the Taratra managers decided the issues they considered appropriate and suitable, converted them into leaflets and distributed them to the teachers during the training and awareness sessions. Their choice was based on their knowledge of the local context. Items such as the poster on the water cycle, taken from the Blue Schools Kit, were visible in all schools.
- School principals and teachers trained become focal points, especially in hands-on learning. The teachers do not consider it a burden despite adjusting their work's organisation, such as incorporating themes into specific subjects, searching for, and gathering materials, and changing timetables. The benefits observed through hands-on learning were well-received and catalysed its replication. The interviewed educators stated that they could share this approach with their colleagues.
- Following the training, the Taratra focal points conduct follow-up and supervision activities to ensure knowledge assimilation, behaviour change, and evolution of new practices, such as waste sorting and gardening. Because of this incremental approach, positive outcomes have been observed at the school level. The cleanliness and organisation of the schools during the planned site visits demonstrate this. All stakeholders regard this noticeable progress at the school level as a significant step forward, expressing their satisfaction with the improvement and hope that these results will persist. **(Process evidence)**
- In the Blue Schools approach, trained teachers impart knowledge of the seven components specific to Madagascar to their students. These components are integrated into the curriculum, including science (life and earth sciences, mathematics), moral and civic education (FFMOM), and French. Students are engaged in planned group activities, which include handwashing, gardening, and garbage collection. Children collect water, water plants, and clean toilets at the school.
- The school exchange visits organised by Taratra, along with the periodic pedagogical days arranged by the CISCOs, generate inspiration, promote healthy competition, and strengthen the capacities of the teachers and principals from non-Blue Schools or SWSC target schools. The teachers confirmed the value of these initiatives and recommended their expansion. The Blue School teachers are confident in training other teachers about Blue School's aspects. The Head of ZAP, accountable for supervising the schools, also confirmed this. **(Process evidence and good practices)**

Practical Learning by Doing: (Process evidence)

- By integrating theory and practice, practical learning elevates their teaching methods. The interviews confirmed that the students know about the Blue Schools' elements, appreciate the practical learning implemented by their teachers, and enjoy the activities. During the study observation, students washed their hands and recycled waste, indicating they were internalising and utilising the knowledge in their daily routines.
- School gardening is significant and essential not only for enhancing students' understanding of food and the environment but also for the practical experience. To preserve water, a precious resource in these regions, the schools have implemented the 'keyhole garden' method, which has proven effective. Some of the visited vegetable gardens, notably those at Amboropotsy and Ampakabo, were exceptionally productive. **(Process and value evidence)**
- Taratra has made two significant contributions to the success of school gardening: i) the availability of a testing ground: the focal points have tested, tried out and become accustomed to gardening techniques by practising them in their office compound. They can take cuttings and share them with the community, in line with the principles of learning by doing. ii) The development of manuals: the nutrition and gardening manuals from previous projects are used as reference documents containing a wealth of information on nutrition and crops. By doing it themselves, they see what works and are more inclined to promote it. In the same way, the success of the schools has spread to the community. Another strategy adopted by the project team was to start with the

nutrition component before the crop component to understand better the link between what to eat (nutritional intake), what to grow and how to grow it. **(Process and good practice)**

- Waste management and sorting have raised awareness that waste can be reused in compost or recycled for other purposes. Plastic bottles can be turned into flowerpots, watering cans or decorations, and researchers observe them as good practices.

School to Community: (Perception and Value evidence)

> *"The Blue School has changed a lot of things: practically no more open defecation, but more and more people are accepting the use of WCs."*
> - Mr Frederique, Teacher at Andranomena Mahasoa Blue School, Madagascar

- School children are seen as excellent messengers and agents of good behaviour. Parents admitted that their children encouraged them to do what they had learned at school, including washing hands, using showers and toilets, and planting vegetable gardens. Community observations showed that many households had a hand-washing station, a shower, and a vegetable garden. Some gardens were as small as one square metre but very productive.
- The MHH education has been effective because some fathers built showers for their wives and daughters so that they can hygienically manage their menstruation. This is a major breakthrough given such a conservative society, and the topic of menstruation is considered a taboo.

The children are responsible for raising awareness and providing entertainment. As part of WASH clubs, they regularly organise community events like games, slams, and poetry, which are widely enjoyed by parents. The Blue Schools approach was part of the Rano Aina III project, which works at the community level. The project team identified this as a factor in promoting replication. What is learnt at school is reproduced more quickly at the community level, and the practices promoted are adopted. Implementing Blue Schools approach has led to a change in behaviour within the community, which in turn has then influenced the school.

6.3.6 Innovation

The Blue Schools approach is innovative in two main ways:

1. While other WinS approaches focus on access to WASH services as the endpoint, Blue Schools uses this as the starting point. The goal is to reinforce positive behaviour regarding water, sanitation, and hygiene, with attention given to menstrual hygiene, and to expand these practices beyond the school community and to non-WASH topics.
2. The Blue Schools Kit contains practical learning materials on waste sorting and management and information on the Keyhole Garden technique. **(Value)**

Other perceived innovations by researchers and key informants were as follows.

Table 15: Innovations for Madagascar

Activities	Results and processes
Waste management component	Waste management has created awareness about the reuse and recycling of waste, including plastic bottles transformed into flowerpots, decorations, and watering cans. This has resulted in an appealing and enjoyable school environment where students and educators collaborate to exchange knowledge while maintaining discipline. The enthusiasm of the students and teachers is evident in their responses. **(Perception and value)**
School and community project components	Parallel implementation at the school and community level is inclusive, with a crucial impact of engaging stakeholders and empowering them, leading to enthusiastic commitment. This results

	in greater sustainability of achievements under the Blue Schools approach. **(Good practice)**
Project-level good practices	Establishment of specific committees for Blue Schools, trial of vegetable gardens in the NGO project offices, thematic focal points among NGO project team and revised and circulated gardening and nutrition manuals from past projects, are noted as project-level innovations which are enablers to a successful project**. (Process evidence)**
Problem-solving techniques as part of building capacities	Taratra's approach for addressing issues or challenging scenarios involves identifying the issue, generating potential remedies, determining the parties responsible for associated costs, and deciding on a course of action. They encouraged third-party assistance from relevant stakeholders. An example from Agnaramaika school was shared where damaged plastic lids of toilets were swapped with wooden covers better adapted to the weather. The parents furnished the wood, and the project financed the expenses of crafting the wooden covers. **(Process evidence and good practices)**

6.3.7 Strength, Weaknesses, Opportunities and Threats (SWOT) Analysis of the Blue Schools Approach in Madagascar

Table 16: SWOT Analysis, Madagascar

Strengths	Weaknesses	Opportunities	Threats
Blue Schools' approach is aligned with the national directives for WinS and Environment, and the recently developed technical guide for WASH-friendly Schools.	The managers of the Ampanihy and Betioky CISCOs had not yet included WinS in their annual work plan and project outcomes are verbally reported.	Schools can leverage municipal, regional, and national budgets for the Blue Schools approach by increasing the visibility and formalise in the respective plans	There are no regular coordination meetings at CISCO level or at sub-national level for exchanges and learning within the sector.
The commune of Amboropotsy has already committed to allocating an annual budget of 100,000Ar (CHF 23) per school.	Blue Schools is not known by MEN, nor is there a signed MoU above the district-level.	WASH Friendly Schools Technical Guide provides guidance on implementation arrangements, capacity building and monitoring, and complements the Blue Schools approach well.	Heavy reliance on communities. Requires more active financial commitment from regional and central education authorities, WASH line ministries at zone and district level
Blue Schools committees have active engagement of women, and the committees are committed to maintaining outcomes. Currently, the funds collected exceed the required budgets.	Blue Schools activities are not institutionalised at zonal and national levels, and there is no active advocacy efforts yet by the project teams.	Blue Schools topics and school exchanges can be incorporated as part of pedagogical days held by the education sector.	MEN CISCO should make frequent visits to the field to monitor the Blue Schools. They are not trained nor resourced to do so.
Blue Schools Kit modified for the local context, well received by schools and communities for relevance related to water conservation and agriculture-keyhole gardens.	Monitoring tools are not systematically used.	Community interest and willingness to support Blue Schools, as demonstrated by the large amount of in-kind donations provided to schools.	Emergencies, droughts, and severe weather patterns, cyclones, etc, are major risks experienced by the schools and communities and can undermine the sustainability of the outcomes.

6.3.8 Recommendations

Policy and planning: Aligning to the WASH-Friendly Schools technical guidance

- Advocate for the inclusion of a WASH section in the annual work plan of CISCOs and ZAPs (in line with the responsibilities of CISCO and ZAP Leaders outlined in the Guide to Establishing a WASH-Friendly School).
- Support district education teams in the development of their annual work plans to include WinS-related activities and ensure that they take the lead in organising regular coordination meetings. According to the technical guide for WASH-friendly schools, managers at the central, regional and district levels are required to include all WinS-related activities in their annual work plan. However, the CISCO managers of Ampanihy and Betioky interviewed have not yet included WinS in their annual work plan. This may also facilitate access to government funding for Blue Schools.
- With communes/municipalities, advocate for the local WASH development plan to contribute to the operation and maintenance of school facilities. This plan has already been approved, but it is not yet operational.
- Advocate for formalising project documents (e.g., Gardening Handbook and Nutrition Handbook) within the education system.

Implementation Arrangements: Technical Working Groups and Engaging local officials

- Initiate the creation of a national WASH Friendly Schools, TWG, technical working group, if it does not already exist, or collaborate if it is already in place. This would improve coordination and strengthen advocacy for continued commitments and resources for WinS and the environment in general and for Blue Schools in particular.
- Sign a memorandum of understanding with the central ministry to ensure the official collaboration. The Blue Schools approach involved local officials in the process of identifying beneficiary schools. The WASH and Education regional authorities were briefed on the project and its progress during the inter-sectoral coordination meetings. However, those in charge at the central level and with the role of supporting sub-national activities, had not heard of the Blue Schools approach.
- Advocate for Blue School Committee Chairs to be members of statutory committees of STEAHs, CSOs and SLC WASHs, as outlined in the technical guidance.

Budget and Financing: Seeking public sources

- Advocate for funding (budget) to reach deconcentrated levels (CISCO, FEFFI) on time.
- Identify public sector resources to be dedicated to the WASH programme in schools.

Monitoring and Evaluation: Certification and Tools

- Formalise the certification of Blue Schools as WASH-Friendly Schools Level III because, according to the National Technical Guide to Setting Up WASH-Friendly School the Blue Schools basic service levels meet the requirements of a WASH Friendly School Level III and could be certified as such.
- Improve joint monitoring and evaluation tools by establishing formal tools for M&E activities and linking them to the results of the annual plan. This applies both to the project team and the government.
- At the level of local education authorities, establish a bottom-up process for the integration of the Blue School approach into education curricula.
- Support central level efforts to set up a functional and reliable monitoring and evaluation system, at least for WinS interventions. Because the integration of the approach into the education system is a central ministry responsibility.

Capacity Building: Visibility and exchanges

- Promote visibility, such as an official inauguration ceremony or a way to share results with the central MEN and other WinS partners. Consider posting on local websites, involve media, use social media, or other professional platforms such as LinkedIn.
- Ensure that all stakeholders have access to the WASH Friendly Schools Guide and request that relevant national counterparts provide this guide during Blue Schools approach follow-up meetings or visits.
- Include hands-on learning as a training theme during the pedagogical days and train pedagogical advisors first. The recommendation relates to education authorities at the district and commune level.

Other: Holistic considerations

- Supporting children to attend schools goes beyond WASH or the environment; there are also social development and rights issues related to access and identity. One of the biggest barriers to student participation is administration. It was a teacher from the Andranomena Mahasoa Blue School who raised this issue. He explained that a relatively large proportion, more than half of the pupils, do not have birth certificates. Without birth certificates, they cannot write school exams. His recommendation is to advocate for free copies of birth certificates so students can sit for official exams. The holistic approach of the Blue Schools must consider the academic aspects which affect student participation. The project could be leveraged to address broader issues of access to education and rights.
- For the next phase, key informants recommended watershed protection activities, as part of climate resilient programming.

6.3.9 Human interest story: Julienne

"Oh yes, the game is worth the candle, so I'll continue until I can't take it anymore!" That's how Julienne, a dynamic 59-year-old woman, grandmother, and head of the technical water department at Amboropotsy town hall, replied when we asked her if she was still ready to continue her fight for better access to WASH services for her community.

Julienne's commitment to WASH is no accident. After the death of her husband, she took over his former position as head of the water technical department. Julienne is also the president of a 24-member women's association, "Vehivavy miara-dia" ("Women, let's move forward together"), and a community health and nutrition worker. Active in her community, she loves children and wants them to have a better life, especially her two grandchildren.

While Julienne knows the WASH messages by heart to share with her peers, her grandson, who attends the Blue School, taught her many valuable and exciting things that she quickly adopted. She proudly showed off a solar disinfection system (SODIS), growing 'talatala' (planks), sorting and separating waste, and a locally built and functioning toilet. And it is all thanks to the Blue School. "They come occasionally, especially the WASH club, and help me with the maintenance.

Julienne has also started to grow crops on planks, and it is noticeable that the brèdes, or leafy vegetables, are growing well, as are the onions and garlic. She says that in the almost two years that she has been growing them, the family, including herself, her daughter, and her grandchildren, have eaten a lot of vegetables. It is clear to her: *"Raising awareness by example is more effective than raising awareness verbally"*.

She sees it as her battle to teach the members of her community that it is normal for a young girl or woman to have her period. It is natural, and there is nothing dirty about it. She also advocates that it is essential for girls and women to shower so that they can wash themselves discreetly and manage their menstruation easily so that they no longer have to walk far from their huts or go to the river and hide to clean themselves. Until recently, this was a taboo subject in this part of Madagascar, and the men didn't want to talk about it or get involved in these women's stories, leaving them to their own devices. Julienne continues: *"It is not over yet, but thank God there is hope for change because some fathers have already built a shower for their wife and daughters".*

Julienne knows from her work as a head of the water technical department, which includes taking stock of all the WASH infrastructure in the community that the Blue Schools have cubicles reserved for girls who menstruate at school, where a sanitary towel, water and soap are always available. She is very grateful to the school staff, especially the Taratra team *"and the donors"* for all this valuable education and these beautiful toilets!

It must be said that Julienne's position at the town hall and her leadership of a women's association give her many opportunities to raise awareness. *"Our lives have changed! Here and there, you can see plank beds, hand-washing facilities, and showers in the area"*. Julienne concludes: *"People at the nearby health centre have told me that they've noticed a drop in diarrhoea consultations recently. That's one of the reasons why I'm continuing"*.

Figure 25: Dynamic Mrs Julienne (standing). Photo credit: Nicole Andriamampianina

7 Global Analysis: Synthesis of Findings

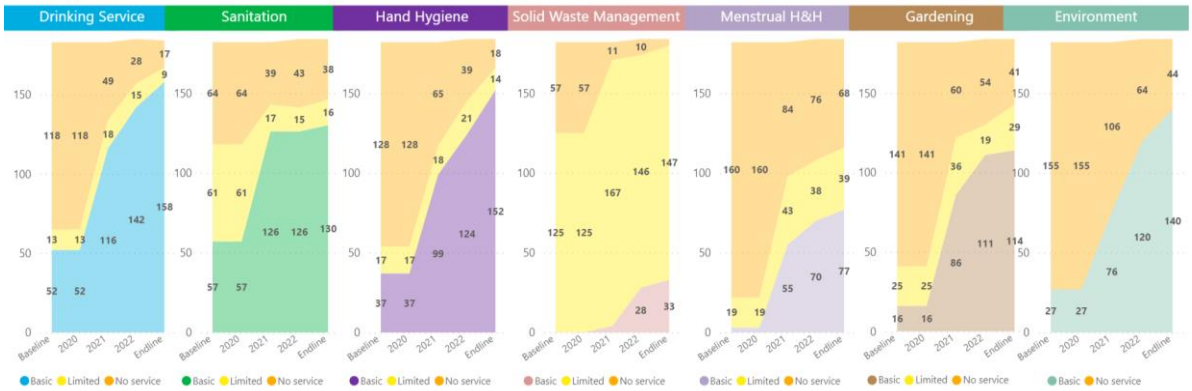
7.1 Validation of Concept – Level of Achievements of Outcomes (Value and Process)

7.1.1 Achievements in terms of increase in service level (WASH and non-WASH)

According to the online SWSC data from nine reporting countries, schools have made significant progress in improving their WASH components, such as water, sanitation, and hygiene, as well as non-WASH components like school gardening and the environment.

In the 184 schools at baseline only 28% had basic water service, 31% had basic sanitation service, and 20% had basic hygiene levels, as defined by the JMP service ladders. Currently, as shown in Figure 32, over 80% of schools have basic water and hygiene sanitation levels, and 71% have basic sanitation levels. There have also been improvements in non-WASH components, with 62% of schools having basic service levels for school gardening and 76% having basic service levels for environmental activities. Solid waste management and MHH have been more challenging, but both show steady progress, with more schools moving from no service to limited service. At the baseline, 88% of schools had no MHH service at all. Today, 37% still remain without service, but a remarkable 42% of schools have basic service. The solid waste management criteria for basic service levels excludes any form of burning, and only 18% of schools have registered basic service levels, compared to none at the baseline. Although there has been progress, there is still work to be done on solid waste management and MHH.

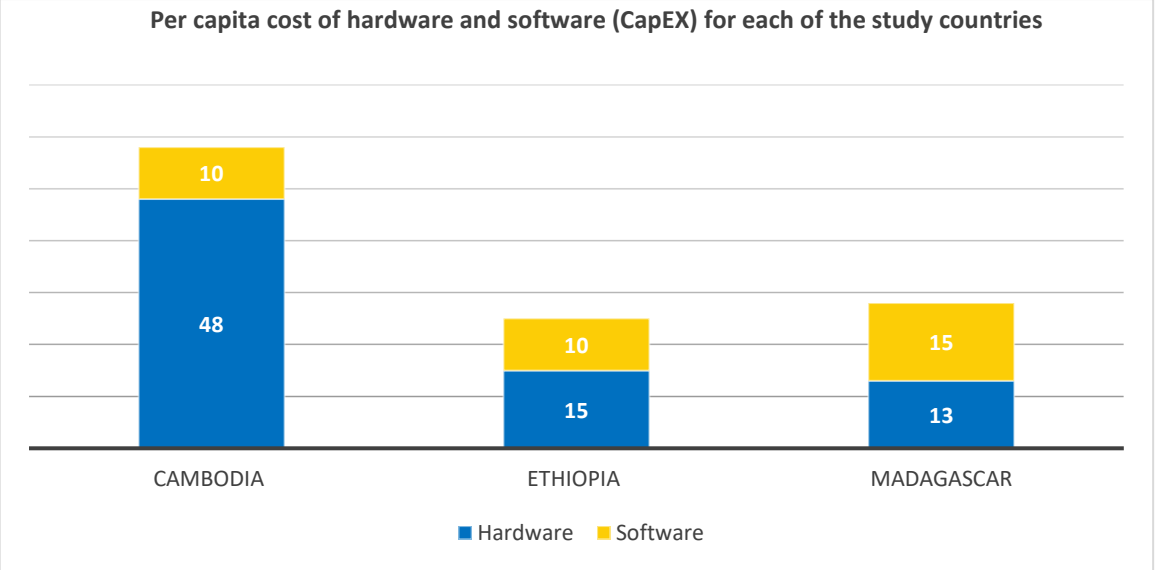
Figure 26: Achievement in service levels, outputs. Source SWSC Power BI



In the study countries of Cambodia, Ethiopia and Madagascar, the study validates monitoring results and demonstrates the approaches effectiveness in increasing service levels for both WASH and non-WASH components. In terms of WASH components, study schools have progressed from no or limited-service levels to limited or basic service levels. Non-WASH components have also seen improvement, with schools moving from no service to basic service and some even advancing towards more advanced services such as MHM, solid waste management, gardening, and environmental activities. In Cambodia, piped water supply, water filtration and wastewater treatment on school premises are considered advanced service levels according to SWSC definitions, and this achievement has been realised through the implementation of the Blue Schools project.

The Blue Schools approach bridges the gap between policy objectives and practical actions. It has income generation potential, and stakeholders appreciate the transformation of school grounds into pleasant environments. Specific to the Blue Schools approach, the availability of WASH and MHH facilities has significantly improved sanitation and hygiene behaviour among students, engaged students in science subjects using learning by doing methods and increased the retention rate of girls in school. Vermicomposting and keyhole gardening techniques have been highly valued for their immediate results.

Figure 27: Per capita cost of hardware and software (CapEX) for each of the study countries. Source: Costing sheets provided by SWSC partners in country.



The study found that the hardware, i.e., infrastructure and software, training and promotion costs in Ethiopia and Madagascar were nearly the same amount per capita, which is unique for projects with WASH components. WASH projects tend to have much higher hardware costs and focus. However, the need for robust and inclusive facilities resilient to climatic and weather changes will result in higher per capita costs as observed in Cambodia.

The researchers found that the WASH facilities were of excellent quality and robust, surpassing those of standard government facilities in all three countries. The only exception was the Angolelana Tera district, which was previously constructed by another organisation. Local authorities in all three countries are content and confident that they will be able to maintain these facilities.

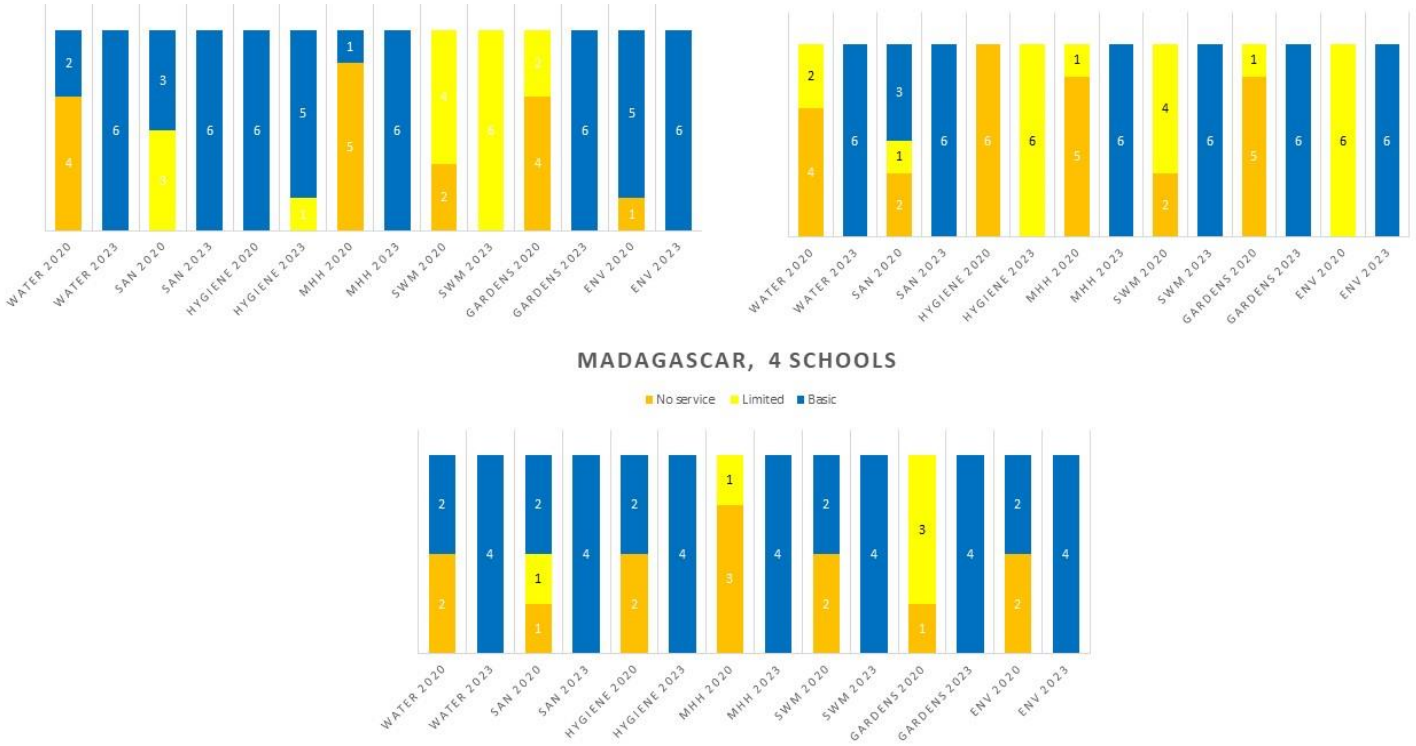
Beyond the project costs, the study noted that the project leveraged significant spin-off activities through financial and in-kind contributions from governments, communities, and schools, in terms of replication of components to other schools as in Ethiopia or direct government investment into infrastructure like in Cambodia. For example, the projects leveraged substantial resources for improvements in school playgrounds, gardening for income generation, and provision of pads to girls through government and community contributions.

Accurately costing these contributions proved difficult for researchers using the costing sheets and requires guidance from the CMU to project teams for the next phase. One should consider a separate study on costing of Blue Schools, with attention to improving the accuracy of the methodology.

7.1.2 To what extent has Blue Schools been implemented successfully? (Value)

The study has found evidence of successful implementation in terms of effectiveness. According to SWSC's criteria, this means achieving the basic service level for WASH, progressing at least one of the four non-WASH components from no or limited service to basic service, and ensuring that teachers are using practical learning approaches in consultation with the government and with the support of parents. All four observed schools in Madagascar had achieved basic service levels in six categories. Five observed school in Cambodia had achieved basic levels in WASH components. Cambodia’s water and sanitation facilities are considered advanced service levels under SWSC definitions because of the water quality testing, filtration, and decentralised wastewater treatment. In Ethiopia, water and sanitation components were assessed at basic service levels. However, researchers observed that operation and maintenance of WASH facilities is a major challenge, (i.e., poor sanitary conditions of latrine facilities), and the lack of soap for hygiene.

Figure 28: Service levels reported at baseline and observation at endline of schools in the three countries.



Three out of the four non-WASH components[14] in Cambodia progressed from no-service or limited to basic service. Solid waste components were at limited service because the criteria do not permit the burning of waste, which is routine in Cambodia. Schools in Ethiopia and Madagascar went from no or limited service to basic service for all non-WASH components. The most advancements were seen in non-WASH components, as most schools started with no service level at baseline.

In all sixteen observed schools, teachers were using the practical learning guidance from the Blue Schools Kit; inside and outside of the classroom, teachers promoted the practical learning of one or more non-WASH Blue Schools components. In most cases, it was related to school gardening as it fit well into the existing science curriculum. The learning by doing practices made teaching easier, and students were more engaged in the subjects. The Cambodian Ministry of Education is supporting the development of an online certification system for Blue Schools approach.

In all cases, the project was able to leverage additional resources through spin-off activities with the parent, school, community, and government contributions. In Madagascar, one local commune provided a modest contribution to each Blue School, and another commune pledged support. In Cambodia, pledges to support the project from commune authorities have not materialised.

Ethiopia has the potential to attract investments from the government. However, the current project is not integrated with the One WASH program structures, which include planning processes and financing mechanisms that should be in place at the district-level. Although the project is consistent with the One WASH programme objectives and priorities, it needs to work with these structures to ensure effectiveness. The future phases of the Blue Schools should focus on system strengthening and proactively facilitating the One WASH programme at the district-level, creating an opportunity for engagement. However, no country provided evidence that government investment was guaranteed in the long-term, specifically for the non-WASH Blue Schools components, although all stakeholders expressed a willingness to sustain the project-level components.

[14] N.B.: San refers to Sanitation, MHH is menstrual health and hygiene, SWM is solid waste management, Garden- gardening activities and ENV- environmental activities.

Key informants from government, schools and communities underlined their continued interest and willingness to sustain the project results. This commitment is rooted in their active participation during project design, implementation, troubleshooting, and problem-solving **(i.e.**, **process evidence/ good practice).** Particularly striking are the responses from community schools in Madagascar, expressing a desire to carry forward the project's accomplishments and the sense of pride and responsibility associated with adopting the approach. Similar sentiments were in Ethiopia and Cambodia, with officials demonstrating their readiness to allocate government resources for maintaining ongoing activities like hygiene promotion, MHH, gardening, solid waste, and tree planting.

7.1.3 Perception and Most Significant Change (Value)

> *"We already loved our work, but we love it even more now. Sometimes we even come at weekends because the school environment is so pleasant. We work in very pleasant surroundings"*
> - Mrs Shenna, Teacher at Agnaramaika, Madagascar on the impact of Blue Schools.

The resounding enthusiasm for the Blue Schools approach in all three countries cannot be understated. It was the repeated theme from the three field researcher's observations and analysis. While the nature of an evaluation tends to bring these positive answers, there was a feeling among the three national researchers, who independently visited schools and met officials, that it was genuine enthusiasm and satisfaction. This enthusiasm prevailed despite the vastly different settings and modalities of implementation. The most significant change experienced by all students and teachers was the improved school conditions, as identified through discussions with national researchers and key informant responses. **(Value).**

In Madagascar, the most significant change was that schools and communities had sustainable access to water in quantity and quality, and students had developed the habit of regularly washing their hands, as noted from the no service or limited service to basic service. Schools openly discuss menstrual hygiene, helping girls address concerns about managing their periods while at school. A survey conducted by the Taratra team showed that 87% of households near schools have a shower (52 out of 60 families). Madagascar Blue Schools went from no or limited-service levels of MHH to basic service levels. This marks a significant milestone in a region steeped in deep-rooted traditions. The interviews with students and parents confirmed the intervention's beneficial effect on the knowledge and behaviour of both boys and girls. Lastly, school children enjoy the vegetables cultivated, including pumpkins, aubergines, courgettes, cucumbers, onions, tomatoes, and more. The school gardens were meticulously kept, a joint effort by everyone and the harvested goods served in school canteens were periodically sold in communal markets to generate income **(Value).**

In Ethiopia, students noted the most significant changes were decreased shame and shyness of female students due to menstruation, reduced dropout, reduced absenteeism from school, improved female student performance, getting sanitary pads, and increased awareness of sanitation and hygiene using the CHAST approach. They also learned how to produce crops through gardening and solid waste management. Teachers shared that they had an easier time teaching students using the more practical teaching aids. School management committees also concurred that the most remarkable significant change was the decrease in the dropout of female students due to the availability of MHM supplies and facilities **(Value)**.

In Cambodia, the newly installed facilities, especially toilet facilities with decentralised wastewater, piped water supply group handwashing facilities and personal behaviour change such as handwashing and throwing rubbish in destinated areas, were cited, along with the cleanliness and organisation of the schools, as significant achievements. Stakeholders from schools and education officials expressed joy and hope for continued progress **(Value)**.

7.1.4 Level of mainstreaming of Blue Schools (Process evidence and good practices)

Mainstreaming good practices outside of the project was notable in all countries, especially within the target districts. The replication of Blue Schools to neighbouring schools in Cambodia was reported, particularly in gardening, environmental practices, and menstrual hygiene interventions. Peer visits and visible improvements were cited as triggers for replication, with the PoE promoting Blue Schools as a model during meetings **(Process).**

The uptake of Blue Schools in Cambodia by other implementing partners was anecdotal and could not be confirmed. Despite many different partners visiting Blue Schools, it is unclear how many have implemented Blue Schools subsequently. One confirmed case is SEADO successfully receiving external funding to expand Blue Schools approach and HEKS/EPER using the Blue Schools approach in Pursat province. The study did not find any other organisation implementing Blue Schools approaches or good practices in Ethiopia or Madagascar, nor were central-level government officials or multilateral organisations even aware of the projects.

Having immediate benefits increases stakeholders' willingness to engage in the Blue Schools approach and affirms their satisfaction with the project. Schools reported immediate benefits of increased food production increased the desire to replicate it. The Ethiopian district education offices copied the Blue Schools components of composting, gardening, and MHH in 18 other schools in Amhara and eight in Oromia. The district officials trained stakeholders and used their existing resources to copy these activities **(Process**). They also mobilised community donations, where the WASH components were beyond their financial capacity to replicate. Likewise, the 'keyhole garden' technique has substantially impacted all four schools and the surrounding communities in Madagascar, including communal farming areas, where it is highly regarded for its water conservation benefits.

The local implementing and NGO partners adopted a proactive approach, following the 'learning by doing' principle, by initially testing the practices themselves (**Process**). They refined and adapted these good practices through experiential learning before formally introducing them to the schools and communities. An example of this is observed in the testing and refinement of the keyhole garden technique in Madagascar. This technique, designed to conserve water and soil nutrients in the compose chambers, underwent adaptation by the NGO partner TARATRA to align with local conditions. This adaptability significantly contributed to the buy-in and facilitated replication. Schools and communities could visit the NGO's office and witness the keyhole gardens in practice. Similarly, in Ethiopia, an integrated approach was taken in selecting crops for school gardens that harmonised with the local ecology (**Process**).

It was difficult to determine if and where the project teams had mind shift changes related to their roles. The Ethiopian NGO partners explicitly stated that their role was to facilitate rather than implement, which somewhat contradicts the government documents that define the role of NGOs as implementers and technical support providers. Meanwhile, the teams in Cambodia and Madagascar had fewer clear assertions and followed traditional NGO roles by working directly with project partners at the provincial and school levels.

7.2 Enabling and Hindering Factors: In which context does the Blue Schools work better?

After comparing the context of three countries, the study identified factors that make implementing Blue Schools approach easier and more likely to succeed.

7.2.1 Country, institutional and policy enablers, and prerequisites

Cambodia, Ethiopia, and Madagascar case studies highlight three enabling factors for the Blue School implementation:

1. Each has well-defined policy guidance on WASH in schools.
2. Each has an education sector mandated to operationalise the policy guidance.
3. Each working with a decentralised education government department

Well-defined policy guidance on WinS

In each of the three study countries (Cambodia, Ethiopia, and Madagascar), a distinct pattern emerges where well-defined national or federal directives for WinS are evident. These directives vested the Ministry of Education (MoE) with spearheading and overseeing WinS. Without exception, all three countries had established a national programme or a guideline for WinS within their respective MoEs. In Cambodia and Madagascar, this engagement falls under the responsibility of the School Health and Nutrition department, whereas in Ethiopia, it resided within the directorate responsible for Quality Education.

In recent years, the evolving WASH, health, nutrition, agriculture and environment policies and guidelines have been translated into sectoral plans and minimum standards adopted by the MoE. This trend is particularly notable in Cambodia, where the focus is on MR guidelines in schools, akin to the Three Star Approach (TSA) for WASH in schools—a collaborative effort by UNICEF, the United Nations Children's Fund, and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Similarly, the Education Sector Development Plan (ESDP VI) indicators, integral to the quality education programme, play a pivotal role in Ethiopia. Meanwhile, in Madagascar, efforts are ongoing to finalise the WASH Friendly Schools technical guide, anticipated to have a comparable national benchmark for WinS, resembling the TSA.

Nevertheless, disseminating these progressive guidelines and policies to subnational levels is challenging across most country contexts. Notably, Madagascar faces obstacles in this regard, with officials expressing a lack of awareness or access to these guidelines. In contrast, Cambodia has made somewhat more significant headway, attributed to the active role of the national School Health Department in cascading directives to provincial levels.

Gap to operationalise policy guidance

Schools and district education government officials repeatedly cited the lack of guidance as a significant challenge to operationalise WinS strategies with their existing resources. The gap in translating the policy documents to the expected national standards was something that the Blue Schools approach filled in the case of Ethiopia and Madagascar. In Cambodia, the Blue Schools approach aided the districts and province to meet the minimum WASH requirements because of the practical activities using locally available materials and learning-by-doing approaches when combined with the Essence of Learning (EoL) methodology.

However, the Blue Schools approach exceeds the minimum WASH requirements guidelines by including gardening, environment, and solid waste components. This increased the value and acceptance of the approach, which sets a path to influence implementation guidelines and eventually policy frameworks. Therefore, the Blue Schools approach and accompanying kit, having practical, doable, affordable, and contextualised materials and activities for the schools, helped them reach the requirements for WinS. This was a key reason for government and schools' buy-in to the Blue Schools approach.

An excellent example of the gap from paper to practice was MHH facilities in Ethiopia. The current design standards under the national One WASH Programme were not easily affordable for schools. The Blue Schools approach in Amhara, in consultation with the Health office and local communities, modified the design and size of the rooms, making it feasible to build locally. This has caught the general interest of the district education office to scale it up. With further advocacy, this could be used to influence the national design standards for MHH facilities.

Decentralised education government departments

All three countries have well-decentralised administrations within the Ministry of Education that delegated responsibilities to regional, provincial, or zonal levels to coordinate and monitor activities. The federal state system in Ethiopia grants to the region's authorities, which is further decentralised to zones and districts. Similarly, in Madagascar, a comparable structure prevails at central, regional, and district levels, while Cambodia operates with national, provincial, and district tiers of administration.

Furthermore, a notable observation was the exclusive collaboration of all projects with the district education offices, prioritising it over other ministries like Health, Water Supply, or Rural Development, and the central level of Education. This strategic choice highlights the importance of the decentralised education offices in implementing WinS and environment initiatives across the board.

A signed memorandum of understanding has been established between the MoE and the respective counterparts in each of these countries. In Madagascar, the directive spans Education and Health, while Cambodia's version involves Water Supply. Ethiopia has taken a more comprehensive approach, extending this arrangement to include the Ministry of Finance. This strategic framework serves two essential purposes: firstly, it establishes a national coordination mechanism for WinS. Secondly, it is likely replicated at sub-national levels. Implications for the Blue Schools projects are that this framework has streamlined the involvement of other technical offices despite the fact the project agreements are formally signed with education offices.

7.2.2 Project-specific enablers

The study identified four broad enablers specific to the Blue Schools project. The absence of these enablers can hinder successful implementation, and they should be considered at the beginning of a project to make implementation easier.

1. Strong implementation arrangements within government structures
2. Monitoring and reporting aligned with government structures
3. Compatibility to the local context
4. Bespoke nature and relevance to respond to school needs

Strong implementation arrangements within government structures

The **Cambodia** Blue Schools project highlights the potential for scale-up and replication because it is **within the existing government implementation arrangements at provincial level**. In Cambodia, WinS has been clearly articulated in the Minimum Requirement Guidelines since 2016, although groundwork started through the Fit for Schools programme in 2012. Over the years, this has been disseminated to schools through a benchmarking, incremental and accreditation programme. Hence, the roles, accountabilities, budgets, and finances for WinS services have been institutionalised. This allowed the Blue Schools approach to employ the same structures to implement the WASH and non-WASH components.

Implementation arrangements were observed to be very weak or unclear in Ethiopia and Madagascar. Correspondingly, in Madagascar and Ethiopia, these structures have only recently been articulated in sectoral guidelines, which have just been established and not fully disseminated. In Ethiopia, it is the national School WASH Strategy and Strategic Plan (2018) and the One WASH programme; in Madagascar, it is the WASH-friendly school Technical Guide (2019). The study found that documents in Madagascar are not yet disseminated or known to schools, nor were the NGO partners using them or adapting them to the implementation arrangements with the relevant institutions. Without a functional implementation arrangement and clear institutional structures, the Blue Schools approach's scale-up and replication are limited. Working solely with local education sector focal points is not sufficient.

When there are clear roles and responsibilities, i.e., accountabilities within WASH in schools, there is a greater likelihood of success and scale, as witnessed in Cambodia. Conversely, when the WASH governance and implementation structures are weak, as seen in Madagascar and Ethiopia, the Blue Schools approach relies on the project and external resources, including community contribution. In other words, not having clear arrangements hinders government accountability and sustainability for both WASH and non-WASH components. Deliberate actions to disseminate guidelines are necessary to ensure that Blue Schools works within government assigned roles and responsibilities, even if it requires additional steps or time for implementation.

In Ethiopia and Madagascar, community and parent groups had a greater role, and higher expectations in school management than in Cambodia. While the Cambodian school management committee includes parents, the committee's direction comes from the education sector. This ensures that the responsibility and accountability remain primarily with the education sector.

Strong overall monitoring and reporting by the project and government partners

Monitoring incentivises schools and government officials to report on progress and benchmark results linked to accountabilities. For example, when a checklist notes that soap is not at the station, who is responsible for this? Monitoring encourages remedial action to ensure that soap is available. Furthermore, irregular tracking and reporting- especially to higher levels of government are lost opportunities for advocacy and to influence how WinS and environment programmes are implemented in schools.

The Blue Schools project monitoring and reporting with the government does not appear systematic in Ethiopia and Madagascar. The exception again is Cambodia, which uses the government's minimum requirement guidelines for monitoring and reporting and accredits schools with one, two or three stars based on their achievements. This school-based assessment is then integrated into the Education Management Information System. It measures progress annually, incentivising schools to monitor and spurring healthy competition.

One solution to strengthen monitoring is establishing a certification or accreditation for Blue Schools approach or building on the current government's programmes for model schools- where possible, as was done in Cambodia. This will allow Blue Schools monitoring to be incorporated into government monitoring. The accreditation approach will also positively shift government and NGO partners' mindsets around monitoring. The fact that school exchange visits are prevalent in all three countries provides a good impetus for Blue Schools' accreditation programme. With accreditation should come fun celebrations and acknowledgement of achievements. This will keep duty bearers and those accountable continuously engaged, as witnessed in the Minimum Requirement Guidelines in Cambodia.

Coherence and compatibility to the local context

What sets the Blue Schools approach apart is its intentional collaboration with project teams and local NGO partners deeply ingrained in the project areas. These teams possess longstanding affiliations with government authorities, schools, and local communities. The projects in Ethiopia and Madagascar had a community component in addition to working in schools, thus, creating a unique exchange between school and community initiatives. This relationship frequently facilitated the replication of activities from schools to the broader community, consistently cited by key informants in these regions. This underscores the Blue Schools' commitment to harnessing pre-existing relationships and local expertise, thereby ensuring that implementation efforts harmonise effectively with the specific communities they engage with.

In the case of Cambodia, a slight deviation is discernible. The primary implementing partners included the provincial education office, an NGO, and a social enterprise. Despite this variance, all partners shared a common grounding within the province.

Local knowledge is precious and underlines the success of any project. It ensures that the project is:

- adapted to be relevant,
- coherent to local policies and standards,
- effectively and efficiently implemented using what is locally available.
- impactful because it addresses actual needs.

A central selling point for the Blue Schools approach was its emphasis on using locally available resources and commencing projects from the school's existing capabilities. This approach resonated with both government and schools, as it permits them to leverage their available resources without the conditionality to co-finance activities beyond what was available.

Ultimately, what was observed in all three countries was that additional resources were leveraged from governments, schools, or communities. As schools and subnational government officials witnessed the positive results, it led to even greater buy-in. In the case of Ethiopia and Madagascar, communities and local governments willingly contributed additional resources and committed to sustaining activities using their resources.

This underscores the Blue Schools approach's efficacy in fostering genuine ownership and a sense of responsibility, notably reinforced when stakeholders perceive benefits. The project's capacity to spur voluntary contributions and sustained support through locally generated resources indicates the considerable traction it can gain when substantiated by visible results.

Bespoke Nature of Implementation and Relevance

The Blue Schools approach addressed the significant need identified by the schools, which is **water**. Whether it was water availability in Ethiopia, water quality in Cambodia or scarce water management in Madagascar, all projects started with water as an entry point. Given the issues of climate change, varying weather patterns, and limited government resources, the focus on water supply in schools makes it highly relevant. Without a decent quality water supply, no WinS policy, standard or indicator for quality education can be met. Furthermore, the branding of Blue Schools approach makes it desirable and aspirational. As paraphrased from an official in Madagascar, all schools want to go blue.

Furthermore, each Blue Schools project demonstrated a unique character -within or across the three countries. Even with the agreed seven components of Blue Schools, i.e., Water, Hygiene, sanitation, MHM and gender, school garden, solid waste management and environment, they adopted a distinct approach for each project within every country. This diversity can be attributed to the significant, integrated collaboration between project teams and local stakeholders. This collaborative approach enabled joint problem-solving and the identification of needs, leading to tailored solutions and, consequently, varied project activities. It also attests to the remarkable capability of local teams to contextualise the Blue Schools approach into their specific setting.

Integral to the success of the Blue Schools projects is a remarkable flexibility in project design and implementation. Good partnerships between the implementing and in-country SWSC partners underlined the operational flexibility. Projects were able to amend their plans and strategies to meet school needs. Illustrating this adaptability was the case of HEKS/EPER and DORCAS in Oromia, Ethiopia, wherein a change from the initial idea of outsourcing to favouring construction by the NGO partner was more efficient. The team in Madagascar also facilitated linkages between the educational institutions, local artisans, and technical experts, thereby enhancing community engagement. This level of flexibility ensured that the projects-maintained resonance with the community, thus sustaining their contextual relevance.

Flexibility in design acted as a catalyst for innovation. Across the three countries, projects explored a spectrum of creative ideas and good practices. These ranged from income generation initiatives within schools, like pad making and school gardens, to the development of E-learning apps for Blue Schools trainers, solar power generators to charge equipment, and even the establishment of Menstrual Hygiene Management (MHH) clubs in traditionally conservative societies in Madagascar. Considering funding limitations from the government and the anticipation of community contributions for WinS, these innovative endeavours, fostering income generation, rendered Blue Schools projects valuable to both schools and the communities.

Table 17: Selected Innovations in All Countries

Component	Some examples of good practices
Water	• Water filtration and reverse osmosis in Cambodia • Rainwater harvesting and provision of water reservoirs in Ethiopia
Hygiene and sanitation	• Latrine construction and group handwash facilities in Cambodia • Latrine construction and water-saving hand-wash facilities in Madagascar • Solar power and amplifiers for mini media in Ethiopia
MHM and gender	• MHM clubs for both boys and girls in Madagascar • Pad-making micro-enterprise in Ethiopia and renaming menstruation from *monthly dirt* to *monthly flower* to help change negative perceptions.
School Garden	• Keyhole gardens in Madagascar • Vermicomposting, selection of appropriate crops and using the produce of school gardens to generate income for MHM and other school needs in Ethiopia
Solid Waste Management	• Sorting of waste into three piles in Madagascar • Attention to collecting rubbish and plastics from the school environment in Cambodia controlling single use plastic among vendors and encouraging students to bring reusable utensils to school
Environment	• Tree planting school initiatives in Madagascar • Learning by doing classroom with outdoor science classes in Ethiopia

However, it is worth acknowledging that flexibility and bespoke programmes introduce trade-offs when scaling up. The Blue Schools approach requires contextualisation. Its guiding principles are intentionally pliable, and adaptation of the Blue Schools Kit and manuals is encouraged. This flexibility intensifies implementation, aiding customisation. It can pose challenges during scaling up with the government when a standard approach is required for budgeting with set costs, training and implementation, risking 'diluting' the approach, a sentiment shared by the Cambodia team.

7.4 The major hindering factor

The hindering factors are challenging to generalise given the different country scenarios and how the Blue Schools approach was implemented. Climate and extreme weather occurrences are likely the most significant

hindering factors to the Blue Schools' first principle, starting with water. Schools repeatedly reported severe climatic and frequent extreme weather occurrences and thus featured it as a hindering factor or risk. Respondents in all three countries reported powerful and higher frequencies of heat, drought and flooding as inhibiting factors for sustaining WASH services and school gardening activities. Schools need to find ways to adapt. Blue Schools approach addresses adaptation in many ways, as witnessed by constructing robust and high-quality facilities in Cambodia or selecting low-cost methodologies for water-saving agriculture and group handwashing in Madagascar. The Blue Schools approach and technical guidance promotes locally appropriate technologies which should be more climate-resilient, a consideration that need more attention.

The Blue Schools approach, with its seven core components, provides the framework and mandate to bring different sectors together locally. In future phases, a deliberate focus on sectoral coordination at the local level, i.e., working with the education sector and other technical departments like health, water, and environment, would be an entry point for building resilient services in schools.

7.5 Evidence of Children as Change Agents in the Communities

The assumption that children will be agents of change revealed little to no evidence during home visits and field observations in Cambodia. Children were aware of good hygiene and waste management and practised it in schools, but it was not a given or an expectation that they should do so at home. Parents interviewed were unaware of the Blue Schools project activities nor informed of the activities to improve the school environment or student's health, except for handwashing promotion. Three possible explanations are as follows:

1. The Blue Schools project in Cambodia did not have a dedicated community component but focused implementation rather on schools and school-to-school replication.
2. There is a clear distinction in focus for the Ministry of Education in schools. Community-level initiatives are the responsibility of the Ministry of Rural Development, which were not engaged in the project.
3. Community outreach activities could not take place during the COVID-19 pandemic, when they were planned, according to project teams.

By contrast the project in Ethiopia had a special focus on community involvement, especially the Kofele District project. A budget was allocated for this purpose, and the district education officials actively encouraged schools to reach out to the community to promote Blue Schools' good practices. This initiative engaged parents and the community on WASH and non-WASH improvements. The Blue Schools approach encouraged children to practice good behaviours and transfer them to their families. The environmentally friendly technologies and practices promoted in the Blue Schools Kit and CHAST materials could be easily replicated in their communities, according to the parents and the community members interviewed. Vermicomposting training was a practical demonstration in schools, which was then replicated in the communities. This practical approach made it easier for children to share ideas with their families, and for their families to see the demonstrations in schools. WASH clubs did campaigns on hygiene promotion outside the school, providing a structure for children to communicate messages in the community.

Similarly, in Madagascar, school children are seen as excellent messengers and agents of good behaviour. Parents shared that their children encouraged them to reproduce what they had learned at school, including washing hands, using showers and toilets, and planting vegetable gardens. Community observations showed that the four visited households had a toilet, handwashing station, a shower, and a vegetable garden, some as small as one square metre but very productive. Parents accept children's role to raise awareness and provide entertainment. Children in the WASH Clubs regularly organised community events like games, slams, poetry, etc.

Where there was the intention, the study did find **that children influenced the transfer of information and ideas from school to the community**, especially in Ethiopia and Madagascar, where a high community involvement in school management and where there were a community project component for both WASH and non-WASH components. The accounts in the human-interest stories from Ms. Juiliene in Madagascar and Mr. Woldye in Ethiopia provide evidence on how they were influenced by their grandchildren or children attending Blue Schools to adopt new gardening methods. They shared independently the marked financial impact it has made in their lives. They now have become advocates of Blue Schools components, especially on improved gardening and water conservation techniques.

Apart from the physical structures, the study noted that MHH components have **changed the invisible forms of stigma and taboos around menstruation**. Girls in Ethiopia and Madagascar Blue Schools speak more freely about menstruation, and parents supported the construction of MHH facilities, sanitary pad purchases or pad-making in schools. Three out of the six Blue Schools in Ethiopia reported fewer or no dropouts in the last year compared to the previous year. The principals attribute this to the greater attention to girls' needs and greater awareness by boys, men, and the wider community. An excellent example in Ethiopia was shared of how a young girl could get money for menstrual pads after her father became aware of the significance it meant for her. Rudimentary showers built by men to help address menstrual hygiene needs were examples in Madagascar. Impressive efforts by school management in all countries, but mainly in Ethiopia, to make sanitary pads available to girls in school, ensure private spaces for girls with water and soap, and find financial means to sustain these efforts with community involvement were notable successes.

In summation, three factors support children to replicate good practices and act as change agents. These are:

1. An **intentional objective and dedicated activities** by schools focussed on community outreach with school children. *It is also a bonus for children if the activities are fun with songs and poetry.*
2. A strong community involvement in the **school management**.
3. A **community project component** in the vicinity of the school, i.e., project activities in communities reinforcing what is being done at school.

Furthermore, concrete measures observed to encourage children to be change agents and encourage replication are:

- ✓ WASH clubs with community-based activities or campaigns reinforcing messages shared by children in entertainment with poems, songs, etc.
- ✓ Practical and doable components in the Blue Schools Kit, which children can easily make or do at home, e.g., handwashing, gardening, or vermicomposting.
- ✓ Demonstrations in the community or school.
- ✓ Explicit action or expectation by the school directors or teachers that encouraged children to share messages and information in their households and communities.
- ✓ School visits and peer exchanges

7.6 Sustainability and System Strengthening

The Phase IV strategy for the Blue Schools approach aims to support system actors and improve the quality and sustainability of WASH services, with the aim of ensuring that all populations are served. Although the Phase III objectives did not include WASH systems change, the use of the enabling environment framework for this study provided some insights for the design of Phase IV, including elements of system strengthening.

In relation to the study's conceptual framework using the enabling environment matrix, researchers found that the Blue Schools approach had value on policy and planning, and capacity development building blocks.

- In policy and planning, the Blue Schools approach addresses the gap between national policies and doable actions at the school level. The Blue Schools components and the underlying principles have been shown to help schools translate the 'what', i.e., the standards, into 'how', i.e., activities to reach the national averages. In the process, it has raised the awareness and importance of WinS and the environment among education officials and communities.
- In capacity development, the learning-by-doing principles promoted in Blue Schools approach and the implementation of appropriate and locally based technologies were valued by schools. Whether it was solid waste management with reused plastics being incorporated in classrooms learning in Cambodia, vermicomposting in science class and household farms in Ethiopia or water-saving keyhole gardens and tree planting in Madagascar. Schools and communities felt that their conditions had improved. Most importantly, they thought that they could sustain the initiatives. Although not yet integrated into the curriculum, education authorities valued the capacity-building elements promoted in classrooms. The lack of integration is because the approach's focus has been primarily on schools and district levels and not with central departments in charge of teacher training.

The SWSC system change marker, see figure below, was used to assess the Blue Schools approach, which was

Figure 29: SWSC WASH System-wide Approach Questionnaire Collated Results. Source: key informants.

	Cambodia	Ethiopia	Madagascar
Funding allocation for construction works decided by concerned authorities	Sensitive		
Planning, budgeting and approval of the construction works is within the annual district planning process			
Procurement processes for technical studies led by the mandated duty bearers	Strengthening		
Mechanisms for **integrity** (accountability, inclusion, transparency, and participation) strengthened		Blind	
Operation and maintenance mechanisms are delegated to private operators, firms or CBO			Sensitive
Service quality monitoring mechanisms are led by concerned authorities			

found to be system-sensitive in a range from system negative, indicating no consideration of systems change, to systems transformative, which is aspirational.

All Blue Schools projects in the three countries are **systems-sensitive for planning and fund allocation**. This study corroborates that the three project countries' teams are on the right track and systems sensitive in the areas of planning, operation maintenance and procurement.

The areas requiring further attention for system strengthening are related to the implementation arrangements (mechanisms for integrity) and monitoring (service quality monitoring mechanism). Specifically, it was the non-clarity and misalignment of roles and responsibilities when working with government partners, not within the government systems of accountability (or structures), and the lack of a systematic system for monitoring and reporting.

7.7 Sustainability and the Missing Link of Accountability

Christine JiaRui Pu et al., in a meta-analysis study (2022) of 19 case studies, found that despite schools being provided with the resources and information, they failed at varying degrees to sustain WASH services. Drawing from concepts in social psychology, public management, and political science, her team concluded that there are three necessary conditions to maintain WASH systems in schools: **Resources, Information, and Accountability.**

Figure 30:Christine JaiRui Pu et al. 2022

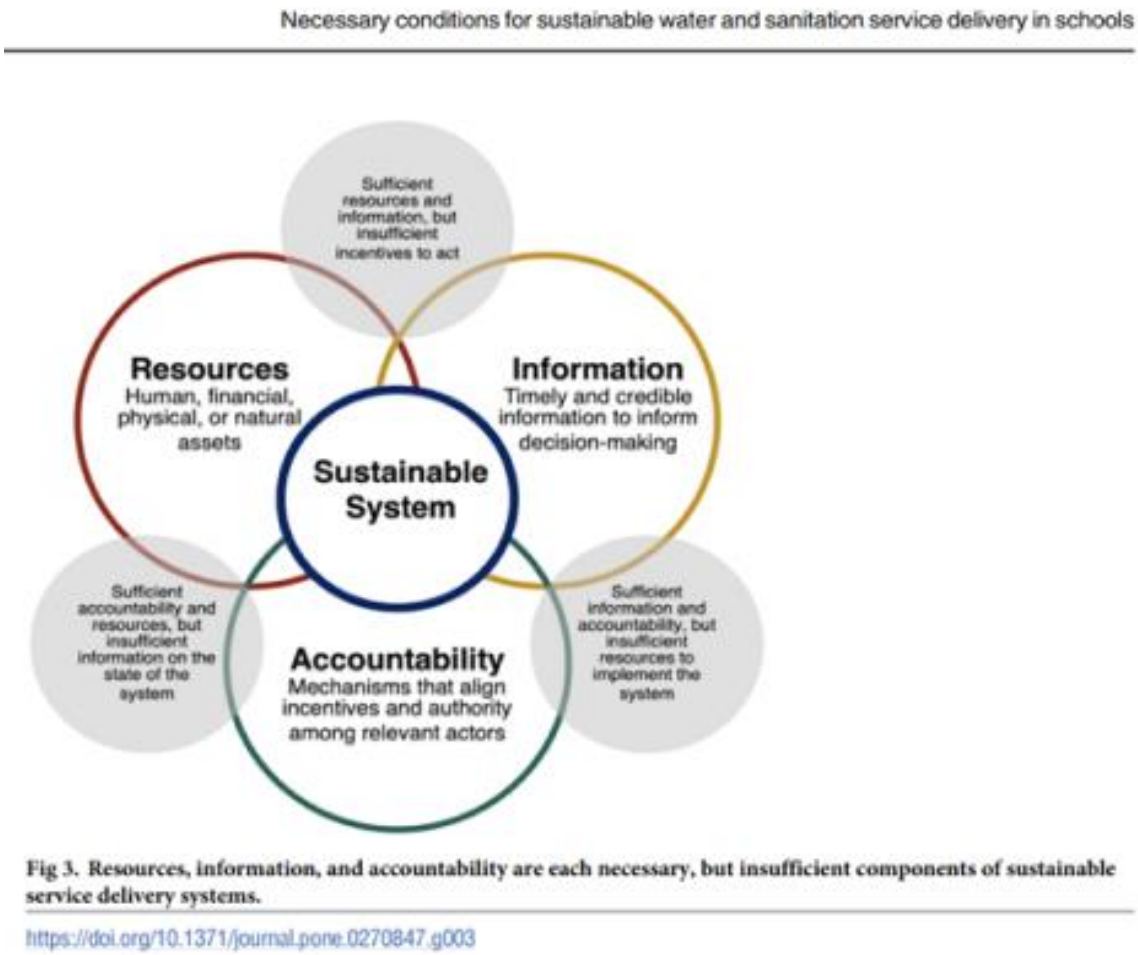


Fig 3. Resources, information, and accountability are each necessary, but insufficient components of sustainable service delivery systems.

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Considering the Blue Schools approach**, financial and human resources** were provided through infrastructure and training for each component**. Information** was provided on the Blue Schools Kit, project planning, training, and monitoring checklists to guide stakeholders on what needed to be done and who was responsible. However, except for Cambodia, the approach has yet to be sufficiently integrated into the national implementation arrangements. This makes the Blue Schools approach potentially outside the scope of the government's accountability.

In Cambodia, the PoE is the implementation partner and has the formal authority for programmes in schools. The CACH team noted that the schools are more reactive to PoE's request than the other implementation partners, i.e., the private sector or the NGO. The PoE has the formal authority to hold headteachers, teachers and school management committees accountable under the government system. This is what Christine Pu's study defines as process accountability. Process accountability is when government agencies carry out activities in relation to policies and programmes[15]. PoE implemented the Blue Schools approach using the guidelines set up by the School Health Department under the Minimum Requirement Guidelines. This guideline delineates the government and partners' roles and responsibilities, i.e., the process accountability.

Moreover, Cambodia's Blue Schools demonstrated **process** accountability with the PoE and also **outcome** or result-based accountability. Outcome accountability is when the accountability is linked to an end result or an outcome, such as through the WASH minimum requirement (MR) guidelines for schools, i.e., the Three Star Approach. The Blue Schools approach in Cambodia used the MR guideline standards for monitoring and as a quality assurance mechanism. By accrediting schools with stars in a clear benchmarking system, it was a transparent system to hold school, district, and provincial levels accountable. The evidence for this is that government

[15] https://www.gao.gov/products/112501

authorities decided to construct urinals in the Blue Schools to qualify the schools for a three-star ranking, even if it was not a requirement within the Blue Schools. Outcome accountability is very effective for sustaining service levels because everyone knows what needs to be done and who is responsible for it.

The drawback of Cambodia Blue Schools' implementation arrangements was that the PoE bypassed the district education office and worked directly with the schools. The district education offices have responsibilities for quality assurance and monitoring. Without the district's involvement, it might lead to a gap in reporting between the school and the province in the long run, especially when there are no project funds to cover the PoE monitoring expenses. However, CACH has taken remedial action to engage the district education office in the next phase of Blue Schools. This will strengthen the process of accountability for Blue Schools in Cambodia.

In Ethiopia and Madagascar, conversely, the lines of accountability for the Blue Schools were outside of the set government structures. In Ethiopia, WinS accountability is within the one WASH Programme (OWNP) with ministries of Water, Health, Finance and Education and in Madagascar, within the national ministries for Education, Environment and Sustainable Development, and WASH and their regional offices. In the short term, this does not affect the implementation because there are project mechanisms in place by the NGO partners to act as a means of accountability for the school directors, teachers, and the Blue School committees, with checklists and plans, and the sub-national district officials are supported to undertake supervision of activities. Moreover, the SWSC project checklists presently give a degree of outcome accountability to stakeholders. However, in the long run, for the Blue Schools approach to be sustained or replicated, this **accountability must be housed within the government's structures** and not with the SWSC partners. In the case of both Ethiopia and Madagascar, it will also require the involvement of regional and national government levels.

The necessary conditions of **resources, information, and accountability** also partially explain why the latrines and handwashing facilities in the schools in Ethiopia were not sanitary, and the handwashing facilities did not have soap. This was despite providing resources, training, and a reported behaviour change. Using the same logic presented by the meta-analysis study, school directors were not held accountable for ensuring the sanitary conditions of the facilities and, when questioned by the researchers, blamed it on the fact that small children do not use the toilets correctly. Hence, while the information on what needed to be done and the resources to do them were available, accountability was not present. The ultimate responsibility at the school level is the director, and at the district-level, focal points who are the quality assurance supervisors.

The current accountability mechanism in Madagascar's community schools is primarily with parents under Blue Schools committees. This form of accountability is appropriate but can only be sustained if parents have the necessary resources and capacities to manage their responsibilities. However, communities cannot sustain the activities if they become beyond their ability financially or technically. Parents may not have the authority to demand support or resources from the education sector, resulting in the services not being maintained well.

The takeaway points are that the provision of resources and information alone is insufficient and for system strengthening and sustainability, the Blue Schools approach should have a greater emphasis on accountability. By working through or with existing implementation arrangements or structures, the Blue School is strengthening the role of the education sector to manage WASH and non-WASH components and fostering accountability. Lastly, the current implementation arrangements put a greater reliance and potential burden on parents and communities to sustain activities.

A point on community contribution:

In the face of weak implementation arrangements, there may be a tendency for the Blue Schools approach to rely on the community contribution and inadvertently absolve the school or education responsibility. Following a right-based approach, **schools are public institutions**, and as such, they are the state responsibilities. Most countries have also declared education to be free, thereby further underlying that education is a state responsibility.

In many low-income countries, community schools are the norm for millions of children, and the only alternative education option. Nonetheless, strengthening the education's sector management should be the primary focus of school-based programmes, over mobilising community resources. Community resources should supplement school activities, but not be expected to wholly fund them. This mind-shift will take time with continued advocacy combined with strengthening implementation arrangements with government.

8 Adaptations and Recommendations

This section is structured around what adaptations have project teams implemented in the three countries, and the recommendations particularly focussed on system strengthening for Phase IV.

8.1 Leveraging Existing Programmes and Structures

In each country, pre-existing programmes and collaborative partnerships were strategically leveraged to facilitate the implementation of the Blue Schools approach. All projects aligned with the national frameworks for WinS, securing government endorsement. Noteworthy are Ethiopia's ESDP, Cambodia's Minimum Requirements Guidelines, and Madagascar's presidential priorities. This alignment empowered Blue Schools project teams to add value to existing national programmes and leverage technical expertise and potential financial resources.

Moving forward, implementing partners need to strategise on further alignment with higher levels, such as regional, central, or federal levels, to scale up the approach. In Ethiopia, this involves realigning the project to foster closer collaboration with district-level WASH teams under the One WASH Programme, especially the water offices. In Cambodia, there is a focus on upstream initiatives to harmonise Blue Schools with the national School Health Department mandates, thereby seeking further means to include the learning-by-doing approaches in the curriculum and minimum WASH requirements. Similarly, in Madagascar, project teams should facilitate collaboration with regional and national education authorities responsible for supervising and coordinating WinS activities.

All three countries should further engage in joint sector reviews and multi-sectoral forums to share the learnings and results. Paraphrased by one national official after learning of the Blue Schools in Madagascar for the first time during this study, *I regret that I did not know about the excellent project results earlier and would propose that Blue Schools become model schools*.

Two overarching recommendations for the Blue Schools approach, aimed at enhancing its sustainability, strengthening collaboration among stakeholders, and contributing to the overall improvements in WASH and environment in schools are outlined below.

1. Collaborate with relevant school-level committees, coordination platforms and organisations at sub-national level, i.e. district and provincial levels, to take a more comprehensive approach and alignment with national programmes, drawing inspiration from successful examples. This requires significant attention to address major bottlenecks in school management and the needed accountability at district, provincial and even national levels, as these problems are systemic and require mind-set changes at all levels. There is currently a heavy reliance on community contribution and assumes their responsibility.
2. Continue to expand engagement to include municipal and commune councils to allocate resources specifically for Blue Schools approaches for O&M of WASH facilities. In many cases, local governments do have some funds for schools, whether from the treasury or locally generated. They also have many priorities for these funds. However, raising their awareness of the effectiveness of Blue Schools approach and working through local Blue Schools advocates or champions within the Ministry of Education might unlock funds.

8.2 Monitoring, and Reporting

The weak government monitoring and reporting inadvertently restricts the channels for information dissemination to higher levels and potentially limit mainstreaming. In the case of Cambodia, provincial education department led the integration of Blue Schools reporting and monitoring into the government system. However, in Madagascar and Ethiopia, where NGOs facilitated the projects, the government monitoring of the Blue Schools appears to be less standardised.

Improving the monitoring and reporting alignment with government for the Blue Schools approach is necessary. The current monitoring system used by SWSC focuses mainly on gathering school information for internal reporting purposes. However, it would be more useful if SWSC teams could also work with government structures to develop simple monitoring tools that schools and local officials can use to track progress and take necessary

actions. This would help to enhance results-based accountability. To achieve this, it is recommended that national indicators and standards for schools be contextualised into simple checklists that can be converted into government forms. This approach would be particularly helpful for ensuring sanitary conditions and cleanliness.

The Three-Star Approach is a great example of how scalable actions can be benchmarked to enable schools to document and report their achievements. The integration of such achievements into government monitoring forms, as demonstrated in Cambodia, is a noteworthy paradigm. While Ethiopian key informants did indicate the presence of checklists for teachers and principals, a comprehensive review and potential revision are necessary given the unsanitary conditions observed in schools.

Some broad recommendations are:

- Engage with relevant stakeholders to review and improve monitoring and reporting tools used with the Blue Schools approach especially for Madagascar and Ethiopia.
- Establish an accreditation programme to strengthen monitoring of Blue Schools approach, building on existing government programmes for model schools, which was found in all three countries. This would integrate Blue Schools monitoring with government monitoring and shift partners' mindsets positively around monitoring. Accreditation celebrations and recognition of achievements will help to keep everyone engaged.
- Invest in enhancing project staff competencies in monitoring and evaluation both as a resource to the government and also to improve project tracking and replication. As noted in the Cambodia section, it is necessary to review and renegotiate the criteria used in monitoring tools like FACET to ensure their suitability and feasibility in different contexts and based on staff capacity and available time.

8.3 Advocacy

There are **many entry points for advocacy** for the Blue Schools approach. For example, the district education offices have been a good starting point for advocacy, as these officials advocate for the approach's effectiveness within their circles. Local government, health, water, and agriculture sector involvement with the Blue Schools approach is promising. In some cases, the local government administration has pledged financial support. Future advocacy efforts should aim to increase visibility and attract technical and financial resources from higher-level sectoral officials and local government. Sharing evidence of the approach's values and processes will help national authorities set standards that schools can achieve with local resources, encourage adaptations in the face of climate change, and include gender, solid waste management, and environmental aspects.

Given the global and sectoral focus on climate change and resilience, the Blue Schools approach provides a practical framework to develop school adaptation measures. The findings of this study recommend a focus for upstream advocacy for Blue Schools approach mainstreaming and building alignment with development partners for approaches that use practical, locally contextualised, and step-by-step principles as being promoted under the Global Water Partnership (GWP) and UNICEF Climate Resilient framework. It begins with understanding the school community context and developing locally appropriate, scalable, and bespoke responses in collaboration with stakeholders, which are the guiding principles of Blue Schools. Additionally, as found in Cambodia, climate resilience may require substantial investment in WASH infrastructure to ensure robust facilities can withstand severe weather and climatic changes, identified as threats in all three countries. The experiences and practicality of the Blue Schools approach will add greatly to the national efforts on climate adaptation and schools.

8.4 Scaling-up

All three countries presented evidence supporting the relevance and effectiveness of the Blue Schools approach in meeting the education sector priorities. The most significant evidence was observed in the activities promoting learning by doing and school-level demonstrations in non-WASH components. These approaches were highly welcomed because project stakeholders saw immediate results. Teachers appreciated learning approaches, as they eased their workload and made teaching aspects on water, sanitation, hygiene, and the environment interesting and engaging. In all three countries, key informants expressed a compelling case for expanding the 'learning by doing' aspect and practical demonstrations. The trajectory ahead should develop partnerships to implement the approach in other localities and highlight the approach at national and forums.

8.5 Sustainability

The three necessary conditions of resources, information, and accountability, suggested by Christine Pu et al. (2022) can be applied to Blue Schools' approach for system strengthening and advocacy. First, it simplifies system strengthening into three concrete areas that are easier to understand by local teams: resources (financial, human, or natural assets), information (planning, training, and monitoring), and accountability (roles and responsibilities, and institutional arrangements). Second, it provides a framework for identifying the stakeholders involved and understanding their roles and responsibilities for implementation. Finally, it supports the development of a suitable advocacy strategy for each context, linked with a mapping exercise and targeting the correct stakeholders to take the necessary actions.

Christine Pu et al. (2022) also highlights the importance of understanding the local socio-political context in developing an effective advocacy strategy. Advocacy is highly contextual, and strategies must be tailored to the specific needs of each context. The Blue Schools approach needs to focus on advocating for accountability of decision-makers and duty-bearers towards schools.

Practical and doable recommendations to support advocacy:

I. Organise advocacy and learning workshops at higher levels, zonal, regional, or national levels, to share successful components of the Blue Schools approach.
II. Increase visibility and share project results with relevant stakeholders regularly, utilising official inauguration ceremonies, education sector groups, websites, social networks, and professional platforms like LinkedIn.
III. Seek formal recognition and certification for Blue Schools, where it exists or align with existing efforts to validate the project's success and promote its adoption in other schools, such as in Cambodia.
IV. Assess the feasibility of scaling up successful components through integration into existing national teacher training programmes, as in Cambodia.
V. Encourage project implementation teams to report about the Blue Schools approach in the regular coordination meetings for Education and WASH sectors.

9 Conclusion

This study provides strong (value) evidence that the implementation of the Blue Schools approach has led to an increase in service levels for WASH, solid waste management, MHH, gender, gardening, and environment, as defined in the JMP service ladder and SWSC monitoring criteria. Schools have shown significant improvements, progressing from no to limited to basic service levels, with some schools even working towards advanced service levels.

Blue Schools approach has proven to be an effective in addressing the primary needs of schools and communities. The local focus is coherent and compatible with each context, and the bespoke nature of implementation has enabled schools to achieve their objectives with additional resources from communities and the government. The flexible project design has made Blue Schools relevant to the needs of schools and communities, and starting with what each school has, has made this approach efficient in delivering results.

Project teams have played a crucial role in contextualising the Blue Schools approach. They have sought ways to involve local authorities in implementation and worked to match project resources against the needs of the schools. They have facilitated solutions and troubleshooting with authorities and schools in all three countries, making Blue Schools a success.

The next phase of SWSC WASH programme envisages a more systematic approach to improve the quality and sustainability of services and ensure all are served. By mapping out the different administrative levels and identifying which partners are strategic to engage, SWSC partners can scale up the Blue Schools approach, impacting more schools with higher levels of service. Strengthening or operationalising accountability mechanisms should

be the focus of the next phase, engaging higher-level sector authorities and local government, and working within the implementation structures laid down in the education sector policies and plans.

As the ultimate goal is to create a better and healthy learning environment for children, Blue Schools approach aids with this vision. By developing the strategy first and foremost with the project teams and having continued flexibility to contextualise system strengthening for each condition, SWSC partners can maintain the principles of the Blue Schools approach and ensure that schools and communities have access to the resources they need to succeed.

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Annex:

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1-Annex-1.2_Overview of data collection tools

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1-Annex-1.5_Ethical Considerations

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2-Annex-2.1_Costing Worksheet Cambodia

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2-Annex-2.4_Key informants Cambodia

2-Annex-2.5_Data collection tools Cambodia

3. Ethiopia

3-Annex-3.1a_Costing Worksheet Ethiopia Kofele, Oromia kofele

3-Annex-3.1b_Costing Worksheet Ethiopia ATWP_Chacha, Amhara

3-Annex-3.2a_Systems-wide approach questionnaire Ethiopia Kofele

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4. Madagascar

4-Annex-4.1a_Costing Worksheet Madagascar in English

4-Annex-4.1b_Costing Worksheet Madagascar in French

4-Annex-4.2_Systems-wide approach questionnaire Madagascar

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