



**Report on schools' overall performance
for the 2023 Hong Kong Awards for
Environmental Excellence (Schools Sector)**

Prepared by:
WWF-Hong Kong

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Introduction

As the technical consultant for the 2023 Hong Kong Awards for Environmental Excellence (Schools Sector), WWF-Hong Kong assessors conducted a total of 59 on-site assessments in 21 pre-schools, 19 primary schools and 19 secondary schools between May and July 2024.

Each assessment, conducted within the school campus, lasted approximately one hour. The assessments were conducted based on the criteria listed in the ***“2023 HKAEE (Schools Sector) Self-assessment Questionnaire (Pre-school Sub-sector)”*** and the ***“2023 HKAEE (Schools Sector) Self-assessment Questionnaire (Primary and Secondary School Sub-sectors)”***.

This report aims to share with the Hong Kong education sector an overview of the performance of the assessed schools in the 2023 Hong Kong Awards for Environmental Excellence. In addition, some feature examples containing best practices and recommendations are included, with a dual purpose to encourage continuous improvement among current participating schools, and invite non-participating schools to make reference of these cases and suggestions to embark their greening journey.

1. Pre-school Sub-sector

A/ OVERALL OBSERVATION

A total of 21 pre-schools were assessed on-site between 29 May and 16 July 2024. General observations are summarised below.

i. **Green Leadership**

Nearly all assessed schools formulated an environmental policy or adapted the environmental guidelines provided by their sponsoring bodies, reviewing these policies at least once a year. They communicated these policies and guidelines to stakeholders through various channels (e.g. school curricular, newsletter, website, and school mobile applications etc.).

Most of the assessed schools formed a team responsible for environmental management and education, consisting of teachers and staff supervised by the principal and supported by the school management.

Nearly all assessed schools integrated “Education for Sustainable Development” (ESD) and/or “Environmental Education” (EE) into the school curriculum. Meanwhile, most assessed schools arranged training for teaching or non-teaching staff on environmental management and education. This training included briefings, workshops and visits organised by sponsoring bodies, the government, external organisations, tertiary institutions and HKAEE (Schools Sector). However, participation was primarily limited to one or two core member(s) of the environmental team.

It was relatively uncommon for assessed schools to sign the latest sustainability/environmental-related charters from the government or professional bodies (e.g. Energy Saving Charter, Food Wise Charter etc.) to demonstrate their environmental commitment.

More than half of the assessed schools incorporated “Education for Sustainable Development” (ESD) and/or “Environmental Education” (EE) into their annual and/or multi-year school development plans, designating these areas as major concerns. However, this emphasis was less pronounced than that in primary and secondary sectors. In terms of annual reporting, most schools compiled a summary of implemented environmental activities in the school report on a yearly basis. However, comprehensive records of performance and follow-up actions regarding both environmental education and management aspects were less commonly observed.

ii. **Programme and Performance**

Resource Usage and Management

All assessed schools formulated guidelines for energy conservation and carbon reduction, water conservation and waste reduction. Corresponding resource-saving devices and waste management facilities, such as electrical appliances with grade 1 energy label, sensor lights and various recycling bins, were also installed. As reflected by some pre-schools, it is less feasible to install large-scale renewable energy system due to the environmental and spatial

limitations of the campus. Hence, only about one third of the assessed schools installed renewable energy facilities/devices. Moreover, the majority of the assessed schools established guidelines for green procurement and/or sustainable consumption of biological resources, incorporating environmentally-friendly products.

Environmental performance was reviewed regularly in most assessed schools, including comparison of electricity and water consumption. However, only one-third of the assessed pre-schools conducted carbon audits.

In terms of implementing schemes or providing incentives to encourage staff and students to adopt green habits, most assessed schools actively engaged in waste reduction, water conservation, and sustainable catering. However, only about half of the assessed schools implemented schemes or incentives focused on energy conservation.

Pre-school sub-sector excelled in waste management, with all assessed schools installed facilities for waste management and collected a variety of recyclables. They also shared the latest waste reduction and recycling practices with staff, students and parents. These efforts were observed to align with the promotion of the Municipal Solid Waste charging scheme during the 2022/23 school year.

Concerning sustainable catering, nearly all assessed schools implemented measures to encourage the use of reusable utensils and containers, such as requiring students and staff to bring their own water bottles and providing reusable utensils. Among the assessed schools that provided lunch and snacks, nearly all of them had measures in place to reduce food waste, such as preparing and portioning food according to the individual needs of the students. In addition, most assessed schools implemented measures to reduce food waste disposal, such as installing food waste decomposer to collect food scraps and converting them into organic fertilisers for campus greening.

About two-thirds of the assessed schools regularly monitored and evaluated their environmental performance and shared the results with school stakeholders, and took follow-up actions as necessary.

Campus Environment

Extensive greening practices were observed in the pre-school sub-sector. Assessed schools with ample space often established gardens or placed planting pots, as well as installed hydroponic or aquaponic systems. While assessed schools with limited space, potted plants were placed in the corners of classrooms and restrooms. Most assessed schools actively participated in the “Greening School Subsidy Scheme” for campus greening, as well as the “One Person, One Flower” scheme as part of their environmental education. School-based extension activities were also designed to educate kindergarteners on plant care.

Neither significant noise pollution nor indoor air quality issues were found in the assessed schools.

Environmental Education

All assessed schools integrated environment-related topics or activities into their teaching plans, such as storytelling with environment-themed picture books and creating artwork from recyclable materials. External organisations were also invited to lead interactive games, perform drama, and demonstrate organic farming on campus. In response to the post-pandemic return to normality, outdoor learning activities were significantly resumed, ranging from explorations in school garden or community parks, to visits to the natural environment.

Evaluation of environmental education was often conducted during teachers' meetings, based on the results of module assessment of students and teachers' observations. Approximately 70% of the schools reviewed the overall environmental literacy of students, while even fewer, about a quarter of them evaluated that of teachers.

Almost all assessed schools regularly disseminated environmental information to school members and their families through diverse channels, including environmental corners on campus, school websites, social networking platforms, or mobile apps.

iii. Partner Synergy

All assessed schools organised at least one parent-child activity, such as drawing, slogan creation and second-hand fashion design competitions, to promote environmental awareness among parents and family members. In the pre-school sub-sector, more than 60% of Parent-Teacher Associations (PTA) or parent organisations of the assessed schools conducted environmental activities, which played supportive roles particularly in recycling and planting duties on campus.

Most assessed schools did not collaborate with other schools or external organisations to conduct environmental activities, nor did they hold on-campus or community environmental events for public participation.

Regarding service and product suppliers, most assessed schools imposed environmental requirements on suppliers or contractors (e.g. requesting school bus drivers to turn off idling engines, requiring lunch caterers to use reusable containers). However, it was less common for pre-schools to specify green procurement criteria in their purchasing or tender documents.

B/ FEATURE EXAMPLES

1. Designed and implemented school-based environmental education storybooks and education packs to strengthen students' understanding of wise use of natural resources and environmentally-friendly lifestyles.
2. Promoted resource conservation through schemes and incentives such as "Energy-saving Competition", "Waste Reduction Billboard", "Be a Food Wise Kid", etc.

3. Along with assessments conducted by class teachers following the school-based environmental education curriculum, student self-assessment questionnaires, parent surveys, and staff questionnaires were also used to evaluate the overall environmental literacy of all stakeholders.
4. The intranet of the school-sponsoring body has set up a donation database that allows schools to claim suitable materials and furniture, thereby optimising resource use instead of purchasing new items.
5. Invited early childhood educators to share experience in implementing environmental education and setting up green facilities during campus open days, or visited kindergartens renowned for their outstanding environmental performance to facilitate knowledge exchange.
6. Co-organised green booth games with nearby primary schools and invited local residents to participate.
7. Lunch suppliers were required to adopt sustainable menus featuring more vegetables and less meat, and serving soup and main dishes in reusable containers such as thermo flasks and stainless steel plates.
8. Students at all levels took turns to act as various types of environmental ambassadors, reminding their peers to bring handkerchiefs, place recyclable materials in the recycling bins appropriately, turn off lights when leaving the classroom, and use recycled paper instead of new drawing paper for their art projects.

C/ RECOMMENDATIONS FOR PRE-SCHOOLS

1. Rather than merely listing individual environmental activities conducted, incorporate “Education for Sustainable Development” and/or “Environmental Education” in annual school plan and/or multi-year school development plan, and designating them as one of the major concerns.
2. Support teaching and non-teaching staff in attending external environmental training to ensure they are well-equipped with up-to-date knowledge on different environmental issues, such as marine litter, plastic pollution, climate change, biodiversity and sustainable consumption, etc. Schools can adopt sustainable development / carbon neutrality as the theme of Staff Development Days or arrange relevant training on those days.
3. Install small-scale renewable energy devices for demonstration and educational purposes, such as solar lights.
4. Conduct carbon audits, and implement schemes or provide incentives focused on energy conservation.

5. Organise more outdoor environmental education activities for students beyond planting or offer recommendations for students and families to experience and explore nature (such as organising visits to urban parks or country parks, public beaches, etc.)
6. Arrange students to take turns in serving as ambassadors to facilitate the implementation of environmental programmes and encourage their peers to adopt green habits. For example, they can assist in turning off all the lights when leaving the classroom, remind peers to bring their own handkerchiefs and cherish food, etc. Student ambassadors could be further trained to share eco-friendly messages with the public.
7. Conduct annual stocktake of environmental resources including teaching props made by teachers and environmental education materials produced by external organisations, and establish a catalogue for easy reference by all school members.
8. Prioritise the promotion of “Use Less” and “Waste Reduction at Source” in daily school operations and education, instead of “Recycling”.
9. Compile documentation of environmental education activities of the whole school year, including all activity details and learning outcomes, to facilitate the review of environmental education effectiveness and identify areas for further improvement.
10. Conduct regular evaluation of both students’ and teachers’ overall environmental literacy (covering knowledge, attitude and behavioural levels), at least once a year.
11. Encourage the Parent-Teacher Association or similar Parent Association to take the initiative to organise activities with themes related to the environment and/or sustainable lifestyle.
12. Share experience with other schools and external organisations, and co-organise joint school and community green activities, such as teaching parents to crochet accessories using recycled yarn and dye old clothes with food waste.
13. Adopt “Whole School Approach” to integrate education for sustainable development in school.

2. Primary School and Secondary School Sub-sectors

A/ OVERALL OBSERVATION

The assessments of 19 primary schools and 19 secondary schools were conducted on-site in school campuses from 27 May to 19 July 2024. General observations are summarised below.

i. Green Leadership

All assessed schools established environmental teams, of which well-structured teams usually include teachers and school staff responsible for different aspects, such as environmental management, environmental education and affiliation of students and parents. Nearly all assessed schools formulated environmental policies or guidelines, which were published and reviewed at least once a year with input from different school members. Most school management, including principals and vice principals, actively promoted and participated in environmental initiatives and policies, and supported the school's environmental sustainability direction by allocating resources and budgets to upgrade environmental hardware and implement related activities.

Similar to the situation in the pre-school sub-sector, it was relatively uncommon for assessed primary and secondary schools to sign the latest sustainability or environment-related charters from the government or professional bodies to demonstrate their environmental commitment. Additionally, less than half of the assessed schools compiled an annual environmental or sustainability report to capture and review their performance.

In terms of curriculum planning, nearly all assessed schools have integrated environmental education into their school curriculum plans, with teachers playing key roles in the planning process. Compared to the previous year, a significant increase in the emphasis on staff training was observed, with over 70% of the assessed schools arranged at least one training session on sustainability or environment-related issues for their teaching and non-teaching staff.

ii. Programme and Performance

Resource Usage and Management

Nearly all assessed schools formulated guidelines and implemented measures on energy conservation, carbon reduction and waste reduction, with a wide adoption of energy-saving devices and waste management facilities. However, relatively few assessed schools put effort into water conservation. The installation of renewable energy facilities, such as solar panels, was more extensive in primary and secondary schools than in pre-schools, due to larger space available on campus. To build sustainable lifestyle habits, assessed schools commonly organised school-based competitions, activity days, or award schemes to encourage students and staff to practise resource conservation habits (e.g. Interclass Energy Saving Challenge, No Food Waste Day). However, relatively few schools established guidelines for water conservation, and even fewer implemented measures to reuse greywater or schemes focused on water saving.

Following the resumption of school lunch services after the pandemic, the majority of the assessed schools offered sustainable menus featuring more vegetables and vegetarian options. Measures were also implemented to encourage the use of reusable utensils and containers. Almost 70% of the assessed schools adopted strategies to reduce the generation and disposal of food waste, such as requiring lunch suppliers to provide suitable meal portions based on the needs of different grades, installing food waste decomposers and establishing partnerships with suppliers for recycling. However, less than half of the assessed schools had introduced schemes or incentives to encourage students and staff to develop the habits of cherishing food, which was somewhat less prominent compared to the pre-school sector.

The majority of the assessed schools adopted environmentally-friendly or sustainable biological products, including Forest Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC) certified paper, refillable stationery and biodegradable detergents, etc. Many of them further developed green procurement and/or sustainable consumption of biological resources guidelines, with reference to the recommendations provided by the Environmental Protection Department, sponsoring bodies, or non-governmental organisations.

About two-thirds of assessed schools regularly monitored and reviewed their environmental performance, shared the evaluation results with school stakeholders, and took follow-up actions as needed. Most assessed schools closely tracked their energy and water usage data, but only a few conducted carbon audits. Some assessed schools were equipped with real-time tracking systems to support the monitoring of resource consumption on campus and display the results to school members.

Campus Environment

Primary and secondary sub-sector made commendable efforts in campus greening, featuring green spaces such as organic farms, hydroponic greenhouses, butterfly gardens, aquaponic ponds, etc. Assessed schools also effectively utilised these green areas by involving students in plant care during lessons and extra-curricular activities. Planting and green activities for students, staff and parents were also organised.

Neither significant noise pollution nor indoor air quality issues were found in the assessed schools.

Environmental Education (EE)

Nearly all assessed schools actively incorporated EE into their core and elective subjects, as well as Life-wide Learning activities. These activities, including cross-curricular project studies, Life-wide Learning Week, outdoor visits, and overseas field trips, aimed to enhance students' understanding on the latest environment- or biodiversity-related issues.

An increasing trend of integrating environmental education with other learning and teaching activities was observed. This included combining STEAM education with scientific inquiry, mindfulness activities with positive education in green environments, and horticultural therapy with life education, etc. Meanwhile, all assessed schools launched various levels of environmental ambassador programmes, providing learning opportunities for student leaders to acquire environmental knowledge, and enhancing their ability to promote

sustainability initiatives. However, a few assessed schools did not arrange outdoor environmental education activities for students, indicating that reinforcement was required in this aspect.

Primary and secondary schools exhibited weaknesses in conducting environmental education evaluation. Less than half of the assessed schools conducted activity or initiative-based evaluation to review their effectiveness. Furthermore, less than 30% of the assessed schools regularly evaluated the overall environmental literacy of students and teachers. It is suggested that both qualitative and quantitative evaluation should be strengthened.

In terms of information dissemination, nearly all assessed schools regularly shared environmental information with school members. Online assemblies, cloud storage platforms, social network platforms and mobile apps were adopted to disseminate the latest environmental information to school members, in addition to ordinary channels such as school website and notices.

iii. Partner Synergy

Most assessed schools organised at least one session of environmental activity to engage parents and families, such as upcycling or planting workshops. Approximately 60% of the Parent-Teacher Associations (PTA) or Parent Organisations of the assessed schools conducted environmental activities, typically supported the collection and distribution of second-hand school uniforms and textbooks to minimise waste generation.

Regarding school networks, only a few assessed schools collaborated with other schools to co-organise environmental activities, while some school representatives acted as facilitators to share experiences on environmental management and education with other schools. As for community activities, around 40% of the assessed schools hosted open days or green workshops on campus for public participation. However, most assessed schools did not organise any green activities for the community beyond their campuses or established partnerships with external parties to launch community-based initiatives.

In terms of service or product suppliers, approximately 60% of the assessed schools imposed environmental requirements on suppliers or contractors (e.g. requiring lunch caterer to use reusable containers and provide vegetarian options) and specified green procurement criteria in their purchasing or tender documents.

B/ FEATURE EXAMPLES

1. Invited student representatives to engage with school management and school staff during environmental working group meetings, fostering collaborative discussions and enabling all stakeholders to contribute to the formulation of environmental policy and measures.
2. Adopted IoT real-time monitoring of energy usage data and solar power generation to review energy management performance and improve energy-saving measures.

3. Actively implemented various waste reduction measures and initiatives, such as banning the sale of bottled water in school tuck shop, organising a “Plastic-free Week” to raise awareness of plastic waste reduction, and establishing a student-led organisation to explore innovative solutions to plastic pollution.
4. Implemented interdisciplinary project-based learning that focused on the United Nations Sustainable Development Goals (SDGs), and arranged diverse field trips and learning activities for different grade levels.
5. Collaborated with parent volunteers and the Parent-Teacher Association (PTA) to organise activities such as low-carbon cooking class, with a view to encouraging students and their families to adopt green diets by designing low-carbon dishes.
6. Partnered with nearby kindergartens to co-launch environmental initiatives, enabling primary school students to engage in self-initiated promotion of crayon recycling and upcycling, thereby encouraging wise use of resources.
7. Exchanged environmental education experiences with the public and other schools at events such as the “Learning & Teaching Expo”, community fun fair, and facilitator scheme.
8. Launched a community food waste recycling programme by applying for the “Environment and Conservation Fund”.
9. Collaborated with a social welfare organisation to host an eco-board game design activity, where students and individuals with rehabilitative needs used recycled materials to create games and share their creations.
10. Mobilised lunch service providers to provide green meal options, such as meals with more vegetables and less meat, and one vegetarian option each day.
11. Partnered with the school bus service company to transition to biodiesel or hybrid vehicles, with the aim of reducing carbon emissions.

C/ RECOMMENDATIONS FOR PRIMARY AND SECONDARY SCHOOLS

1. Compile an annual environmental / sustainability report to capture and review the performance of environmental management and education, and make it available on the school website for both internal and external stakeholders to access, so as to showcase the schools’ efforts and contributions in environmental protection.
2. Include at least three to five staff members from different ranks and functions in the environmental management group. The group formation should consist of the principal or a vice principal, curriculum development officer, staff responsible for school catering, procurement and facility management.

3. Invite different school members, especially students, to provide input in environmental policy formulation, implementation and review.
4. Support teaching and non-teaching staff to attend external environmental training to ensure they are well-equipped with up-to-date information on different environmental conservation issues, such as marine litter, plastic pollution, climate change, biodiversity and sustainable consumption. Schools can adopt sustainable development / carbon neutrality as the theme of Staff Development Days or arrange relevant training on those days.
5. Keep a regular record of all water and energy consumption (by checking the bills or meters) as well as solid waste generation to provide objective data that could assist the school to monitor the effectiveness of conservation actions.
6. In addition to energy and waste management, more attention could be given to water resource management, such as establishing water-saving guideline, reusing greywater and rainwater, and implementing schemes (e.g. inter-class competition) or providing incentives to encourage staff and students to develop the habits of conserving water.
7. Require lunch caterer to use “reusable” lunch containers instead of “recyclable” ones to truly reduce waste generation.
8. Improve the accuracy of green procurement policy execution and provide regular reminders to staff to maintain a conservation-oriented atmosphere within the staff community.
9. Conduct assessments of environmental performance every three to six months to review performance across various areas, and devise follow-up plans and actions.
10. Develop a long-term (three years or more) environmental education plan, to ensure the coherence and sustainability of environmental education in the school. Schools could consider integrating environmental education into interdisciplinary areas such as visual arts, STEAM education, and values education (e.g. life education and positive education), etc.
11. Apply fundings from the government or external organisations, such as the “Environment and Conservation Fund”, “Greening School Subsidy Scheme” and “Quality Education Fund”, to install green facilities, greening the campus environment and implement environmental education projects.
12. Arrange an adequate number of outdoor learning activities for students to engage with nature, rather than solely visiting indoor venues outside the campus. Recommended places to visit include Geo Parks, Mai Po Nature Reserve, nature parks, country parks and public beaches, among others, and disseminate the importance of environmental protection and nature conservation during these outdoor activities.

13. Compile documentation of environmental education activities of the whole school year, including all activity details and learning outcomes, to facilitate the review of environmental education effectiveness and identify areas for further improvement.
14. Conduct a systematic and holistic evaluation to assess the environmental awareness, attitude and behaviour of students and teachers, evaluate the effectiveness of the school's environmental education / plan, as well as assess the levels of understanding of environmental concepts among students and teachers.
15. Assess the effectiveness of environmental education activities using pre- and post-questionnaire or evaluation forms, and evaluate the overall environmental literacy of teachers and students through an annual assessment. In addition to using questionnaires for quantitative evaluation, the school can also consider incorporating qualitative evaluation in students' learning activities. This could include open-ended questions and drawing components in student activity worksheets, which can be further analysed for insights on students' learning outcomes, such as environmental knowledge acquisition and understanding of abstract concepts related to sustainable development, as well as changes in attitudes towards environmental conservation.
16. Encourage the Parent-Teacher Association or similar Parent Association to adopt sustainable lifestyle as the theme of their activities, such as making handmade soap using coffee grounds, conducting low-carbon cooking classes, etc.
17. Share experience and co-organise green activities with other schools and external organisations.
18. Organise environmental activities for the general public, such as game booths, eco-product DIY workshops, organic planting courses etc., to promote green living and further extend the school's impact on environmental sustainability in the community.
19. Adopt "Whole School Approach" to integrate education for sustainable development throughout the school.