



The Global Search for Sustainable Schools

Programme Synthesis Report 2019-2021

*BRINGING SUSTAINABILITY
TO SCHOOLS ACROSS THE WORLD*



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Reviewers: Pedro Bernardes, Jibek Kadoeva, Anh Tuan Nguyen

Please cite as: Dwayne Appleby, Atsushi Watabe, and Simon Gilby, Daniel Babikwa, Humphrey Bergraaf, Eang Bun, Denise Conselheiro, Jyldyz Duishenova, Cleopas Kantika, Kim Thuy Ngoc, Socorro Leonardo Patindol, Bridget Ringdahl, 2021. The Global Search for Sustainable Schools: Synthesis Report 2019 - 2021

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Acknowledgements

This report is based on the experience of the Global Search for Sustainable Schools (GSSS), a project of the One Planet Network's Sustainable Lifestyles and Education Programme (SLE Programme) in collaboration with 84 schools in nine partner countries. The GSSS was financially supported by the Ministry of the Environment Japan, through its contribution to the 10YFP Trust Fund administered by UNEP. We would like to thank the UN Environment Programme and the national project coordinators and project partners as follows:

National Coordinators and Partners:

	Brazil	Akatu Institute for Conscious Consumption
	Cambodia	Ministry of Environment; Ministry of Education, Youth and Sports
	Kyrgyz Republic	State Agency for Environmental Protection and Forestry of the Kyrgyz Republic; Kyrgyz Academy of Education of the Kyrgyz Republic
	Namibia	Namibia Environment Education Network (NEEN)
	Norway	Centre for Collaborative Learning for Sustainable Development (CCL)
	Philippines	Philippine Centre for Environment Awareness and Sustainability (PCEAS)
	South Africa	Water Explorer; Rhodes University
	Suriname	SUWAMA Suriname Waste Management
	Uganda	National Environment Management Authority (NEMA)
	Viet Nam	Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)

The Sustainable Lifestyles and Education Programme and the Global Search for Sustainable Schools

■ The Sustainable Lifestyles and Education Programme

Recent studies have revealed that our daily activities such as eating, moving, heating and cooling homes, and purchasing consumer goods, have become one of the most significant sources of the greenhouse gas emissions that cause global climate change. Rethinking the ways in which we produce, consume and exchange is crucial to efforts to move towards a society where we can all live well within the boundaries of our planet.

Societies also suffer from other challenges associated with the incumbent patterns of our economic activities and ways of living. Despite remarkable growth in income and progress in poverty reduction, a massive number of people still have difficulty meeting their daily needs. Even in the wealthier countries, people suffer from various risks such as health, unstable employment, and vulnerability to natural disasters. Growth of income does not automatically ensure a safer or more secure living. We need to continue our efforts to create a society where everyone can meet their needs in a more resilient and reliable manner.

Therefore, it is imperative for societies to support people to achieve more responsible and resilient ways of living that reduce harmful impacts on the environment, society, and economy. In recognition of these facts, the Sustainable Lifestyles and Education (SLE) Programme was launched in 2014 as one of six programmes under the UN 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YFP, also known as the One-Planet Network). The SLE Programme aims to foster the uptake of sustainable lifestyles as the common norm, and to ensure their positive contribution to addressing global challenges, such as resource efficiency and biodiversity conservation, climate change mitigation and adaptation, poverty eradication and social well-being. Measures taken towards achieving these objectives include multidisciplinary research and multi-stakeholder cooperation, through the promotion of participative and bottom-up approaches, innovative policies, economic instruments and technologies, and awareness-raising, as well

as through all forms of education. Experts from a variety of institutions worked together to operationalise the programme activities, including the governments of Japan and Sweden as the programme co-leads, the Institute for Global Environmental Strategies (IGES) and the Stockholm Environment Institute (SEI) as the coordination desk, and the multi-stakeholder advisory committee comprising more than 20 expert organisations globally, including international organisations such as UNEP, UNESCO and OECD, as well as the European Commission, national governments, civil society and the private sector.

■ Global Search for Sustainable Schools

The Global Search for Sustainable Schools (GSSS) has been carried out as one of the global initiatives under the SLE programme. The GSSS programme recognises the central role of education in creating the enabling conditions to achieve sustainable lifestyles within planetary boundaries. Education directly develops the leaders and innovators of tomorrow, fostering the critical skills of life-long, active learning that are necessary to achieving healthy, flourishing, and just lifestyles that facilitate limiting climate change to 1.5 degrees Celsius.

Nine countries from around the world were selected to participate in the GSSS. As was discussed above, it is vital to develop capacities at the individual, organizational and societal scales to enable more responsible and reliable patterns of living. These capacities are essential for creating truly sustainable societies. The GSSS aimed to mainstream sustainable lifestyles into formal education; make sustainable lifestyles the guiding principle in every learning environment; mobilise and empower youth; and promote sustainable lifestyles.

Coordinated by the Institute for Global Environmental Strategies (IGES) and implemented by government agencies and national-scale NGOs in the nine participating countries, the GSSS called for schools to submit sustainability action plans. 84 schools were selected and were given grants to implement their ideas, turning their plans into more than 200 school-based sustainability projects with the support of experts from their country and around the world.

Although all schools' actions were severely impacted by the COVID-19 pandemic and associated restrictive measures such as school closures and restriction of travel or meetings, all 84 schools in the nine implementing countries found innovative ways of continuing the work. They showed a high level of patience and creativity in learning from the crisis, flexibly adapting their actions to achieve the overall project goals, growing the capacities of students, teachers, and communities to make their schools, communities, and individual lives more sustainable and resilient.

This report summarises the overall experience of the GSSS, and key lessons learned through the implementation processes during the challenging situation presented by the global COVID-19 pandemic.



GSSS participating countries: Brazil; Suriname; Namibia; South Africa; Uganda; Kyrgyz Republic; Cambodia; Viet Nam; and the Philippines

■ Education for Sustainable Development and Sustainable Lifestyles

Education for Sustainable Development (ESD) and Education for Sustainable Lifestyles (ESL) are two closely related methods of education focused on creating learning environments and curricula that support learners in developing the skills necessary to achieve sustainable ways of living for themselves and their communities.

ESD is an educational approach that prepares students to live sustainably by integrating key issues of sustainable development into teaching and learning. At its core, ESD is about motivating and empowering learners to reflect on and make changes to their behaviours, and to take action to foster sustainability. ESD encourages the development of a key set of skills: critical thinking; problem-solving; future scenario building; collaborative decision-making; and self-awareness. By fostering these skills, ESD enables learners to apprehend the connections between local realities in their communities and the global context.

ESL is a subset, or component of ESD that pays particular attention to how the choices we make in our daily lives are linked to the health of our communities, the resilience of our local ecosystems, and the global challenges facing all peoples today. The deep objective of ESL is learning for transformation, preparing learners to create a sustainable future by creating the conditions for life-long learning and continuous engagement in the pursuit of sustainable daily living.

Key to achieving the objectives of ESD and ESL are four methodologies:

1 Actively engaging learners and creating personal connections between them and sustainable development.

2 Building connections across subjects (interdisciplinarity) and between the classroom and the real world, as well as strengthening cooperation and collaboration in learning.

3 Creating an enabling learning environment and learning approach for change and transformation.

4 Developing life-long learning and sustainability competencies that help learners actively engage with sustainable development throughout their lives.

As such, the integration of ESD and ESL into curricula should include rich content, clear learning methodologies, and progressive learning goals with local relevance and cultural appropriateness. This includes the important elements of progressive pedagogies such as active learning, experience-based learning, student-centred learning, and collective inquiry.

Global Search for Sustainable Schools: The Overview

■ The Objectives

Education has been a keystone of practices aimed at raising awareness, deepening knowledge, and building capacity towards sustainable living at the global, regional, national, and local levels. The Global Search for Sustainable Schools has built on this work, partnering with schools and national partners in nine countries to develop individual, organisational, and societal capacities to enable more responsible, reliable, and sustainable patterns of living.

An increasing number of governments are developing and implementing environmental education policies, and a variety of initiatives have been developed and implemented to engage teachers and students to deepen their understanding of sustainable lifestyles and the diverse means by which sustainability can be a core part of daily life. While the challenge remains to make sure that the existing frameworks or strategies are implemented and enforced, contests and capacity development present an invigorating opportunity to engage schools and communities in greening both learning processes and environments.

Building on the past development of policies and practices on Education for Sustainable Development and Education for Sustainable Living, the SLE programme initiated an international search for and development of sustainable schools with the following objectives:

- a. Support implementation of regional and national mandates for education for sustainable development and lifestyles;
- b. Develop a replicable and scalable approach to a healthy and effective search for sustainable schools;
- c. Develop capacities of schools to design and integrate sustainability in school curriculum, infrastructure and management/administrative principles and practices, as well as in the communities hosting them;
- d. Engage teachers and young students into active participation on the implementation of education for sustainable development and lifestyles in

their schools and stimulate them to foster sustainable practices at school and the everyday life of students and their communities.

The Global Search for Sustainable Schools has been financially supported by the Ministry of the Environment, Japan, through its contribution to the 10YFP Trust Fund administered by UNEP. It has been coordinated by the SLE Programme's Coordination Desk (CD), and jointly implemented by the CD and the Steering Committee comprising SLE Programme MAC members, environmental education expert organisations, and nine partner countries.

■ Nine National Partners

The Global Search for Sustainable Schools administered a call for partner countries from late 2018 to early 2019. The partner countries were tasked with planning and implementing the GSSS projects in their countries. The initial call included the following guidelines for partner countries seeking to join the GSSS. Selected country partners would be responsible for:

- a. Selecting the schools to participate in the GSSS programme;
- b. Supporting the selected schools in developing implementation plans and budgets;
- c. Participating in the International Exchange to Share experiences and ideas for implementing sustainable schools; and
- d. Monitoring and reporting of the school activities.

Governments and national-scale NGOs from nine countries responded to the call and submitted applications to join the GSSS. The GSSS steering committee carefully examined each country's plan and implementing capacities and decided to invite all nine countries to participate in the GSSS programme.

■ The Global Criteria and the National Searches

Once the GSSS identified the nine partner countries, the steering committee and the nine national partners jointly developed the global criteria used in the national searches for sustainable schools. Several countries were able to build upon domestic experience conducting eco-school programmes, contributing years of institutional experience in supporting this type of initiative at the local and national level. Building on the international definition and objectives of ESD and ESL and learning from the preceding national/international projects that select and support school programmes toward sustainability, the partners agreed on four guiding criteria for sustainable schools: School Governance; Teaching and Learning; Facilities and Operations; and Community Partnerships. A set of 12 indicators were outlined as follows in Table 1.

With this set of criteria and indicators, national partners administered a call for school proposals from 2019 to 2020. The progress of the national searches differed significantly across countries due to local conditions such as support from national governments, experience of the partnering organizations, and the impacts of the COVID-19 Pandemic that made it essentially impossible to organise large events or even smaller gatherings.

By mid-2020, the nine countries had selected 84 schools in total to participate in the Global Search for Sustainable Schools. Starting in early 2020, the selected schools were provided with grants to implement their ideas, turning their dreams into reality with the support of experts from their country and around the world. In all nine countries, implementation of sustainable school projects was significantly delayed or disrupted because of the COVID-19 pandemic. As a result, the implementation period was extended to provide more time for schools to implement their projects.

Table 1: GSSS Criteria and Indicators

Criteria	Indicator
 School Governance	Description of a process for developing a vision that involves the whole school.
	Describes how stakeholders will be identified and how they will be involved in the governance of the school.
 Teaching and Learning	Description of a process for bringing sustainability and sustainable lifestyles concepts into the formal curriculum across subjects.
	Description of how students will be taught about local and global sustainability issues and the linkages between them.
	Description of capacity building for teachers on sustainability and sustainable lifestyles
	Description of a practical element to learning about sustainability (e.g., gardening, or similar activities)
 Facilities and Operations	Describes Infrastructure and/or policy changes are across multiple areas (energy, food, water, waste management, greenery etc.).
	Describes how all stakeholders will be involved in the design of the changes.
	Describes changes to the physical infrastructure of the school.
 Community Partnerships	Describes how the school will be involved in the local community
	Describes a range of different activities (e.g., clean up events, helping green local cultural events, meeting with local businesses to discuss sustainability issues, approaching local media, linking with local NGOs etc.)
	Describes a role for the local community in the life of the school (e.g., sustainability tours of the school, guest lectures, sources of technical assistance etc.).

■ Impact Assessment

Monitoring the sustainability gains derived from the GSSS project activities, especially those activities which occurred outside the classroom, was of vital importance for four key reasons.

- a. Progress Check:** Measurement and monitoring allow us to build a progress check into our planning. By measuring the status of the community, organisation, people, emissions, etc. at the start, midpoint, and end of the project, we can consider if things are going as planned and if anything needs to be changed.
- b. Understanding Impacts:** Monitoring is conducted to understand the impact of the project. This will enable you to report back to donors and communicate your achievements in order to gain greater support.
- c. Fulfilling the donors' requirements:** As is the case with other projects financially supported by international organisations, donor agencies, or private companies, GSSS should also monitor and report the impacts to the funding partners. In particular, it was mandated to nine countries to monitor and report the Greenhouse Gas emissions reduction effects, since GSSS is financially supported by the Government of Japan's so-called carbon tax (the energy saving special account).
- d. Getting everyone on the same page:** Projects are carried out through the collaboration among the implementation team and a large number of participants and partners. It is essential for these stakeholders to share a common understanding of the current state of their communities and livelihoods, of the impact of our daily actions, of the purpose of our collaboration, and of our power to change things. The value of this collective sense of purpose exists regardless of the eventual impact of the project. Even in the case of project underachievement the process of assessment, measurement, and monitoring produced a deeper common understanding of the challenges faced by the community. It provides the opportunity to share knowledge and to make sense of shared experience.

■ Measurement of Greenhouse Gas Emissions Reduction

There are many scientific ways to measure greenhouse gas (GHG) emissions, some of which are expensive to implement and calculate. However, for small activities like sustainable school projects, it is not desirable to apply complicated and time-consuming methods, aiming at capturing all possible sources of GHG emissions. Considering the limited budget and time of the implementing schools, GSSS coordinators suggested countries and schools apply more straightforward approaches: Bottom-up Estimation and Before-and-after Comparison. To facilitate this process of measurement, the SLE Coordination Desk developed a simple toolkit to assist schools and country partners in estimating the reduction of GHG emissions associated with their projects.

GSSS Programme Implementation

■ The Implementation Period

Formal implementation of the GSSS sustainable school projects was planned to start in early 2020 and extend through to July of 2021. Due to the significant impacts of the COVID-19 pandemic on education delivery around the world, which saw school closures in some countries as early as March of 2020 that persisted in some cases for nearly a year, the implementation period was extended to September 2021 to allow as much time and flexibility as possible for schools and students to implement their projects. For many participating schools, implementation of their projects was significantly disrupted and delayed because of school closures and a shift to distanced learning models as governments responded to the health crisis. In total, implementation occurred over the 22-month period from November 2019 - September 2021.

Over this period, the 84 schools participating in the GSSS programme implemented 202 project and sub-project activities covering four key action areas:

- ✓ curriculum development,
- ✓ school management,
- ✓ infrastructure upgrades, and
- ✓ community activities.

Each activity carried out by the participating schools addressed one of more of these areas, seeking to implement projects that advance ESD and ESL beyond the classroom and outside of the school, creating the conditions for life-long learning. In many cases, this integrated approach resulted in broader school-level engagement and the development of stronger ties with parents and the community.

The activities implemented by the 84 GSSS participating schools can also be broadly categorized according to impact area, as shown in Table 2 below. It is important to note that many GSSS projects took a systemic approach to the topics of sustainable development, and thus each project impacted on multiple areas. For example, a composting project includes education and training around food production, nutrient cycles, food waste, and general principles of circularity.

Table 2: GSSS Projects by Impact Area

Impact Area	Project Types
Awareness 	Campaigns focused on: climate change, ecology, energy, environment, food, materials (paper, plastics, etc.), waste, water
Community 	Workshops, webinars, extracurricular clubs, education centres focused on engaging the larger community in sustainable development education and action
Ecology 	Biodiversity, ecological stewardship, ecological restoration, conservation, disaster preparedness, climate change mitigation, topsoil retention, agricultural production
Energy 	Energy conservation, GHG emissions, solar panels, biogas generators, embodied energy/emissions
Food 	School gardens, greenhouses, orchards, irrigation systems, nutrition, food waste, composting, nutrient cycles, agricultural production, biodiversity, bees, insects, animal-rearing
Infrastructure 	Water harvesting systems, waste management systems, LED lighting, cook stove upgrades, solar panels, biogas generators, campus greening
Waste 	Consumption and production systems, reuse, repair, recycling, waste sorting, waste flows, waste management systems, circularity
Water 	Consumption, resource scarcity, hydrologic cycles, rainwater capture, water reuse systems, grey water, irrigation systems, sewage and water treatment, water conservation, solar water heaters, hygiene

As countries moved forward with their implementation plans, each began with a period of teacher training before turning to the implementation of projects such as new curricula. In a few cases, infrastructure improvement projects were able to start early on, while in most countries such projects were significantly delayed by the impacts of the COVID-19 pandemic. Similarly, changes to school operations and management were planned and implemented in most countries; however, the impact of these projects was limited by the long periods of school closures and will only bear fruit in coming years. Finally, many countries were able to implement workshops, webinars, and community engagement activities later in the project cycle, adapting to online delivery in some cases, and enhanced sanitation and hygiene measures for in-person delivery in others.

■ Teacher Training

A key component of each country's implementation plans was the training of teaching staff in ESD and ESL pedagogies. The training of teachers in ESD and ESL subject teaching and pedagogy is highly impactful. Not only does such training equip teachers to effectively deliver curricula with careful consideration of environmental and sustainability content, it also equips them to adapt to and develop new curricula in the future. As ESD and ESL principles demand an action- and future-oriented approach to subject matter teaching grounded in local contexts, equipping teachers to adapt to changing local contexts is essential for long-term integration of sustainability into formal education.

In most cases, teachers at implementing schools were already aware of the sustainability challenges facing their students and their communities; however, the GSSS programme was able to provide the support necessary to train teachers in the latest pedagogical approaches to better equip learners to take on the challenges of sustainability in their own lives. This approach recognises that for ESD sustainability starts with teachers and was very well received by teachers in all nine countries.

Training of teachers included practical training on issues of sustainable development and sustainable lifestyles. While all training included broad themes of sustainable development and lifestyles, each country implemented teacher training in their own way, allowing country partners to ensure that the training included as much locally relevant material as possible. For example, with schools

embedded in smaller agricultural communities, teacher training was able to include more material on issues relevant to agricultural lifestyles and production such as water use, topsoil retention, animal husbandry, and food security. In this way, teacher training was responsive to local needs and was very well received in all countries.

Development of New Courses and Subject Teaching Materials

Every school in the GSSS programme developed new curricula and supplementary materials that integrated the principles and pedagogy of Education for Sustainable Development and Education for Sustainable Lifestyles into subject teaching. New curricula spanned the breadth of courses, from humanities and social studies to science, maths, and the arts and often adopted an action-oriented pedagogy. In each case, country partners worked closely with schools and teachers to develop curricula that would reflect the needs and interests of local communities. These efforts reflect a core tenet of ESD and ESL pedagogy, that when students can see themselves and their communities in the subject matter, they are better able to engage with the material and carry the learnings forward with them in life.

As with all aspects of the GSSS programme, the implementation of new curricula was significantly impacted by the COVID-19 pandemic. For many schools, classroom teaching was impossible for most of the implementation period, and not all schools were able to successfully adapt to an online or distanced learning model.

Humanities and Social Sciences Curricula

Many countries incorporated consideration of sustainable consumption and production systems in their humanities and social studies curricula, challenging students to think about how consumption choices in the school, household, and community contribute to sustainability challenges, and asking them to think about new pathways forward that consume less and regenerate more. Students were encouraged to see themselves as active agents in the consumption and production system, and to carefully consider the impacts of individual and group consumption choices. Learners also considered concepts of sufficiency and overconsumption in the context of the ecological and carbon footprints.

Consumption-focused curricula included discussions of the sustainability benefits of sharing resources or access to material goods, reusing materials rather than purchasing new, and repairing goods to extend their lifespan. The development of repair skills was a particular focus of extracurricular activities organised by teachers and students in several schools across the GSSS programme.

Another area of emphasis for consumption-focused curricula was waste. Many schools developed modules that tackled issues of waste generation and management and how schools and learners can better handle the flow of materials, recycling, composting, and reducing the consumption of materials such as paper and plastics. Considering what happens to waste materials, including packaging, food waste, and electronics was a key component of many courses in the humanities and sciences. Students, faculty, and school workers were all engaged in discussion of the impacts of waste and the value that comes from proper waste management at the school level. These learnings were easily translated into action in the home and community, with many communities making use of the recycling and waste sorting infrastructure that schools installed to accompany the new teaching materials. This topic was also a key focus for many extracurricular activities conducted by school Environmental Clubs and after school Learning Circles in all GSSS partner countries.

Similarly, many schools addressed production systems in their newly developed curricula. Some schools created new teaching materials centred on pressing local issues such as water use, and agricultural production in the context of drought and topsoil erosion. Others focused on challenges related to the generation of electricity where the local grid faced instability and the school experienced frequent power outages. Across the GSSS, the new curricula ask students to engage with real-life challenges facing their communities and to think together about causes and solution spaces. In many cases, these discussions spilled over into the local community, with potential benefits to local agriculture, employment, and food security.

Science and Mathematics Curricula

Each GSSS implementing country also developed new science teaching modules that integrated ESD and ESL pedagogy with subject teaching. Content included modules on water, agriculture, biodiversity, and conservation, while integrating sustainability into maths lessons through problems designed around local and current sustainability challenges.

For many countries, science education took on a decidedly action-oriented pedagogy, taking learners outside of the classroom to experience sustainability in their own local environs. For example, schools in several countries engaged in wetlands restoration projects, with each country taking a different approach in response to different local needs. In one set of countries, wetland restoration focused on biodiversity and local ecosystems. These science modules focused on learning about the health of wetlands, the role they play in local ecosystems and the hydrologic cycle, and how local communities can help to manage wetlands better. Students participated in assessments of wetland health, collecting water samples and cataloguing wildlife and plant species.



Students at Scottsville Primary School, South Africa, get outside to learn in their new biodiversity garden

For another set of countries, the science classes focused on wetlands emphasised the role of local wetlands in resilience to natural disasters, specifically extreme weather events such as droughts and floods in Africa and heavy rains and typhoons across Asia. Students participated in actively restoring local wetlands by helping to replant trees and clear waterways while learning about the role different plant species play in reducing vulnerability to floods and sinking vital nutrients into the soil.



Teachers and students participate in a wetland restoration project, planting Lawaan and Narra trees along the Gibong River, San Francisco, Agusan del Sur, Philippines

Every school in the GSSS programme implemented at least one school garden programme that was integrated into science and nutrition subject teaching. Each school implemented or enhanced an existing school garden supplying fresh produce for school feeding programmes. Some school gardens were traditional in-ground or raised beds, while others were greenhouses or growing tunnels that extend the growing season for countries farther north or south. Other schools also implemented fruit trees to further enhance the nutritional and learning capacity of their gardening activities.

The COVID-19 pandemic heavily impacted the opportunities associated with school gardens particularly hard across the GSSS countries. In many locations, learners and their families depend on the food provided by school feeding programmes to supplement family nutrition, and the GSSS schools had planned to enhance these benefits while expanding the learning opportunities associated with growing a variety of crops. When schools closed around the world in response to the pandemic, this vital source of support for student nutrition and the learning opportunities disappeared. Fortunately, many GSSS schools were

able to innovate and adapt to keep these projects going. In some countries school workers and teachers maintained the gardens and facilitated pick up of fresh produce. In other countries, such as the Philippines, the gardening programmes moved from the school to the home, with teachers providing support to families in starting home gardens and facilitating local exchange networks between families.

Several schools implemented biodiversity gardens, planting a wide variety of local, climate-wise species of plants well adapted to local weather patterns. These projects provided an excellent teaching space and opportunity for action learning for biology classes. Students were able to get outside and interact with the plants, learning about how such plants fit into the local ecosystem, can reduce the water consumption of gardens and landscaping, supplement nutrition, and aid in topsoil retention and controlling water runoff in the rainy season.

In response to the COVID-19 pandemic, many country partners and teachers worked quickly to adapt teaching materials to highlight the sustainability impacts of new behaviours on local issues. For example, mathematics classes engaged students in estimating the water consumption impacts of the enhanced sanitary measures implemented in schools and the increased waste flows from personal protective equipment and the use of sanitizers. Students compared normal water usage with the increase in water consumption caused by more frequent handwashing, and estimated the water saved by adopting water conserving methods and tools such as tippy taps.

Arts Curricula

Many of the GSSS participating schools also integrated ESD and ESL into their arts subject teaching. These efforts ranged from the visual arts through to the performing arts and addressed issues related to consumption and production, climate change, ways of living, and nature. Students were called upon to engage with issues of sustainability in unconventional ways, allowing them to explore creative responses to environmental or sustainability issues in their lives.

Visual arts classes integrated environmental and sustainability considerations into their activities. This included using themes of sustainability such as nature, water, biodiversity, and community as themes in student art projects. Students were encouraged to think about what a good life looks like and to draw or paint images to communicate their perspectives. Schools also implemented challenges and contests where learners created images expressing what

sustainability means to them and what a sustainable world would look like. These works were often incorporated into larger school efforts to raise awareness about sustainability for the entire student population and the larger community.



Students in Viet Nam participate art classes reusing materials and creating sustainability themed images

Art classes also engaged students in creating works with unconventional materials, repurposing objects like plastic bottle lids to create beautiful images. Some schools also used this approach to engage students in beautifying the school grounds, transforming grey concrete benches into colourful works of art, and ordinary stairwells into vibrant corridors.

ESD and ESL was also incorporated into some drama courses, with students creating and performing skits addressing issues of climate change, resiliency, overconsumption, sufficiency, and waste. One group of schools included these activities in a larger public awareness campaign that reached out to engage the national community.

The integration of ESD and ESL into humanities, social science, science, mathematics, and art subject matter teaching was a highly effective way to engage learners, faculty, and school administrations in carefully considering the environmental challenges facing their communities, and the ways in which they interact with those challenges at the individual, school, and community level. By implementing ESD and ESL pedagogical approaches, the GSSS participating schools are already helping to equip tomorrow's community leaders to assess the challenges presented by climate change and unsustainable development and to rise to the challenge of creating a better future for their communities and the larger world.

Infrastructure Upgrades

Within the GSSS programme, each school included infrastructure upgrades as part of their implementation plans. For some schools these upgrades were stand-alone projects serving to enhance the functionality of the school while bringing down local environmental impacts and GHG emissions. In other schools, such infrastructure upgrades were integrated into subject matter teaching or supplemented the activities of extracurricular groups or the community at large.



Students at Budyonovskaya Secondary school, Kyrgyz Republic harvest in the new school greenhouse

Campus Greening

For many schools, infrastructure upgrades began with greening the campus, bringing in more greenery to the school and grounds. These projects enhanced the biodiversity of the campus, often favouring the use of indigenous and climate-appropriate species to create beautiful and soothing environments that encourage students to pause and appreciate nature. In many cases, several of the plant species were also edible and could be used to supplement school nutrition programmes. By using climate-appropriate plant species in landscaping, schools have been able to reduce their water consumption, restore local ecosystem resilience, and in some cases start to slow topsoil erosion. In many schools, greening projects worked together with science teaching, providing living examples for biology, ecology, and nutrition subject teaching.



Students and faculty enjoy the newly revitalized green space at Svay Chrum Primary School, Cambodia

A few schools took their campus greening a step farther to implement apiaries and ‘insect hotels’ to support local bee and insect populations. These projects provided students with unique educational opportunities to deepen their understanding of the role of insects and pollinators in the lifestyle of plants. These lessons are of particular importance for students in agricultural communities where stable insect populations are critical to economic and food security.



An ‘insect hotel’ from B. Junusov Secondary School in the Kyrgys Republic (left), and apiaries from Bongova Primary School in Uganda (right)

Energy, Food, Water, and Waste System Upgrades

For many schools, the need for a stable supply of electricity spurred the implementation of infrastructure upgrades to develop on-site sustainable electric generation. Several schools installed solar panels on their roofs or on

school grounds, while other schools installed biogas digesters. The use of biogas digesters was integrated into school gardening and composting projects and provided hands-on learning opportunities for students.

In some cases, the new on-site sustainable electricity generation projects replaced outmoded, carbon-intensive generators that ran on gasoline or diesel. This switch had an immediate impact on local air quality at the school campus and will have a long-term impact on school finances.

The new energy producing infrastructure was used to support regular school operations, but also supported new projects by powering other infrastructure such as irrigation systems. These projects added a measure of energy security for schools that experienced regular energy shortages or black outs. As a result, schools expect to lose fewer teaching hours in coming years.

Many GSSS schools constructed greenhouses or growing tunnels to extend the growing season for their gardens. These infrastructure projects provided stable growing environments for produce, helping to ensure a steady supply of food for school feeding programmes. In most cases, despite the pandemic, these greenhouses and growing tunnels were able to produce multiple crops over the implementation period. This was particularly important for communities that were hard hit by the economic impacts of the COVID-19 pandemic. Where schools were open to in-person instruction, these projects provided rich environments for students to learn about plant life, agriculture, and nutrition.



Students and teachers pose in a new permaculture greenhouse in Suriname

A large number of infrastructure upgrade projects were implemented for water systems. Many schools installed drip irrigation systems in their school gardens, ensuring efficient use of water. In most cases, schools that implemented irrigation systems also implemented rainwater capture systems to supply the irrigation systems with a steady source of water. This was a particularly important combination of projects for countries that experience severe water insecurity such as Namibia and South Africa. Several schools also installed solar water heaters to supplement existing water systems and reduce energy consumption on campus. Finally, a number of schools implemented greywater systems to facilitate the reuse of water on campus. All of these projects provided opportunities for teachers to engage students in considering the implications of water usage and conservation.



Students tending crops in the school garden, supported by a rainwater capture system and irrigation system at Cimbebasia Primary School, Namibia

As with water, many schools implemented one or more infrastructure projects targeting waste management. These projects included the installation of recycling and waste sorting centres, as well as composting and biogas digesters. Many schools installed new garbage bins around their campus to facilitate waste

sorting and prevent littering. Larger recycling and waste sorting centres were often opened to the local community to help spread knowledge and access to proper waste flow management.



Students pose with waste sorting bins at Escola Estadual Luiz Lopes de Carvalho, Brazil

School Retrofits

All 84 schools in the GSSS programme implemented at least one school retrofit project. These projects spanned from lighting retrofits to upgrades to larger equipment. The most common upgrade was a switch from incandescent to LED lightbulbs, which consume less electricity and last longer. These projects were implemented in all nine participating countries.

For several schools, upgrading their on-campus cookstoves was a critically important project. Prior to the GSSS projects, these schools had cooked over wood or coal burning ovens which produced large amounts of smoke and caused significant build-up of soot. The burning of these fuels resulted in negative health impacts for school workers and a large investment of time in cleaning up after them. Schools in two countries adopted alternative cookstoves, in one case switching fuels and in another significantly enhancing the efficiency of the stoves. In both cases, the amount of fuel consumed and GHGs produced was significantly reduced,

■ School Operations and Management

Each school in the GSSS programme was challenged to assess their operations and management to find ways to reduce the ecological and carbon footprint of the school. Schools found that there were a number of interventions that could be made to reduce the material, energy, and water consumption of school operations. In specific, most schools designed school management projects targeting paper, plastics, water, and energy consumption, as well as material and food waste.

To achieve the goal of reducing school footprints, GSSS schools took several approaches. Some schools implemented a top-down change in consumption and waste management, with new guidelines being introduced to faculty and school staff to help reduce consumption and waste. Other schools paired this with various awareness campaigns targeting school staff and students, integrating the school management project with other GSSS projects being implemented in the school. In many cases, schools conducted training workshops for school staff to build team spirit and motivate staff to adopt the new methods.

As with many other aspects of the GSSS projects, these activities in many schools have not had a chance to take full effect due to significant school closures over the course of 2020-2021. It is expected that these new operations and management methods will result in reductions in consumption and waste generation in the coming school years.

■ Community Activities

The importance of community activities, taking ESD and ESL learning beyond the classroom, cannot be overstated, especially considering the global COVID-19 pandemic. As schools closed and teaching was delivered online or through other distanced methods where possible, it became increasingly important to engage with families and the community.

Taking the GSSS projects beyond the school to engage with the community through events, campaigns, and public workshops and dialogues was an important part of many schools' implementation plans from the beginning. Schools planned public events for important dates such as Earth Day, to invite the community

to come and see what the students were learning. Similarly, many schools organized public workshops and dialogues focused on issues of importance to local communities such as waste, agriculture, disaster preparedness, and health. In some areas it was possible to hold these workshops online, and in others they were held in large outdoor spaces. Schools also welcomed the community to make use of their newly installed recycling and waste sorting centres, helping families to better manage their waste flows and learn about the impacts of proper waste management.



Students and faculty at Colégio Estadual Leóncio Correia pose in front of a new outdoor 'green classroom' used to continue student and community engagement through school closures in Brazil

■ COVID-19 Impacts on the Global Search for Sustainable Schools

For every one of the 84 participating schools in the GSSS programme, COVID-19 has posed a significant set of challenges. Schools began to shut down as early as March 2020, and many remained closed for much of the following year. Some schools opened for a few months before closing again in response to successive waves of the pandemic. Many remain closed still, more than 18 months later. Aside from the incredible burden places on students, many of whom have experienced a 'lost year' of education, the GSSS programme faced the challenge of how to implement school-based projects while schools were shut down.

Across all nine countries, the priority has been to maintain education delivery if possible. This has led to a mix of delivery methods across the programme. In some regions, online education delivery has been possible, with teachers using various video conferencing platforms to connect with students and deliver courses. Unfortunately, for many other regions online delivery was not possible due to lack of infrastructure, economic challenges, and lack of access to necessary equipment such as laptops at home for many students. Some schools were able to maintain some form of education delivery by using cell phone-based chat applications to stay in contact with students and conduct audio calls to cover material. This delivery method also faced challenges in some regions where families may have just one cell phone that students may not have access to, and cellular data signals may not be reliable due to insufficient infrastructure. Still other schools were able to implement distanced learning models that relied on pick-up and drop-off of learning materials and homework assignments.

Over the 22-month implementation period, all 84 participating schools in the GSSS programme were able to implement infrastructure upgrade projects on their campuses. Schools in some regions were able to begin implementation on these projects quite quickly but were forced to pause their efforts as health and safety measures restricted the movement of people. Many other schools faced long delays as economic activity in their areas came to a halt early on when quarantine measures were put in place to protect the population from COVID-19. For some schools, implementation was delayed by nearly a year.

Other GSSS projects were harder to implement during the pandemic, such as changes to school operation and management. New methods were developed and formally adopted; however, due to extended school closures they have not been in practice for more than a few months over the 22-month implementation period. The schools remain hopeful that they will see great results from these changes in school policy in the coming years.

Similarly, new learning modules that relied on access to school facilities or the implementation of other projects posed a significant challenge to teachers. A key innovation that emerged in several countries was the shifting of GSSS project delivery from the school campus to the home. While this was not possible for all project types, in many cases teachers were able to find innovative ways to adapt project delivery so that students and their families could implement them at home. For example, school gardens play an important role for many families in supplementing nutritional intake for students, and for schools they provide ideal learning environments to teach students about plants, nutrition, insects, and the hydrologic cycle. In some regions, GSSS schools were able to provide families with assistance in starting at-home gardens to provide fresh produce to the family and a learning space for the students. This adaptation was highly successful in maintaining both the educational opportunities for students and the important nutritional supplements for families.

Many schools also provided timely spaces for community discussions as schools and families struggled to adapt to the evolving COVID-19 pandemic. Schools hosted workshops and dialogues with parents to codevelop strategies on how best to continue educational delivery, including implementation of GSSS projects. In some cases, schools also provided a space for the community to come together to learn best practices for enhanced hygiene measures and reducing the ecological impact of the increased demand on water and waste generated from personal protective equipment such as masks.

An additional challenge that faced the GSSS implementing schools was in capturing the GHG emissions reductions associated with their projects. During normal operations, the measurement process would be relatively straightforward; however, with school closures and project delays it became nearly impossible to estimate the annual impact of the projects.

GSSS Program Impacts and Outcomes

As part of the GSSS programme, schools were asked to measure the impact of their projects in terms of GHG emissions reductions and to provide narrative reports on the student and school-level impact of projects through monthly calls and two multi-day workshops. To support these efforts, the SLE Coordination Desk developed a toolkit to aid schools in measuring GHG emissions reductions and provided regular spaces for country partners to come together to discuss implementation challenges and opportunities.

■ Country Partner Support System

Over the course of the 22-month implementation period, the SLE Coordination Desk held monthly calls for country partners to discuss their successes and the challenges they faced in implementation. These calls became spaces where country partners forged strong relationships and provided mutual support in taking on the challenge of implementation during the COVID-19 pandemic. These calls proved to be essential to maintaining momentum and motivation for many country partners as the COVID-19 pandemic continued to disrupt project implementation. The support and collaboration that emerged from these calls was a critical component for the success of the overall programme. In a survey of country partners, all respondents indicated that this system of monthly calls was one of the most useful tools provided by the Coordination Desk.

In addition to the monthly calls, two multi-day workshops were held over the course of the implementation period, bringing together country partners, school implementers, expert presenters, and representatives from the SLE Multi-stakeholder Advisory Committee's Education Working Group. During these workshops, country partners presented their implementation plans, detailed their projects, and updated the group on project implementation in their countries. Country partners also discussed the breakthroughs and challenges they were facing in implementation, inviting conversations about project adaptation.

In the first workshop, held in October 2020, many countries were still experiencing widespread school closures and significant barriers to implementation. Guest experts presented on novel pedagogical approaches, subject teaching tools, and ways to ensure that ESD and ESL teaching was inclusive of all students. The conversation between country partners and school implementers was dominated by considerations of the COVID-19 pandemic and its ongoing impacts on society and schools. Schools thought together about strategies for implementing distanced education and adapting GSSS project implementation to the new circumstances. As a result, the nine GSSS countries forged closer bonds, with many now maintaining regular contact with one another and developing plans for regional collaboration in the future.

During the second workshop, held in August 2021, most school projects were well underway, and in some cases, countries were able to report the completion of project implementation. Guest experts led discussions of the global framework for ESD and ESL, action learning pedagogy and teaching tools, and taking a whole of school approach to integrating ESD and ESL into education. Country partners and school implementers were particularly interested in the whole of school approach, as it reflected the systemic approach many of them were taking in their own implementation plans. The SLE Coordination Desk also presented the GHG Measurement Toolkit developed for small- and micro-scale initiatives, walking participants through the process.

■ Student and School Impact

Over the course of the 22-month implementation period, country partners and school implementers engaged in a wide range of school activities to advance ESD and ESL on campus. In total, 202 projects and sub-projects were implemented across the nine partner countries. These projects ranged from infrastructure improvements to curricula upgrades, awareness campaigns, and changes in school policies. As such, the collective impact of the projects on school populations was large, reaching each student and staff member in multiple ways.

In total, the 202 GSSS school projects directly impacted on 55,285 students across the 84 participating schools, engaging them in ESD and ESL in multiple

ways. Additionally, 1,744 teachers were impacted either directly through teacher training, or through participation in events, dialogues, extracurricular activities, and new school policies. Table 3 below summarizes these metrics.

Table 3: GSSS Protect Participation Metrics

Country	Schools	Projects	Students	Teachers
 Brazil	5	5	3,750+	200
 Cambodia	6	12	4,313+	224
 Kyrgyz Republic	4	12	4,906+	324
 Namibia	17	40	10,199+	200+
 Philippines	5	56	12,257+	320
 South Africa	26	52	5,213+	140
 Suriname	6	5	1,630+	103
 Uganda	10	10	9,500+	50
 Viet Nam	5	10	3,517+	183
TOTALS	84	202	55,285	1,744

It is difficult to quantify the impact of the GSSS programme in the larger community because of the challenge of assessing how many people viewed or participated in an awareness campaign or dialogue, especially during COVID-19 sanitary restrictions. It is certain that families and communities were directly impacted by their participation in these projects, including in helping to adapt GSSS project implementation to take place in homes and yards in the community.

Greenhouse Gas Emissions Reductions Toolkit

To support schools and country partners in measuring GHG emission reductions, the SLE Coordination Desk developed a set of impact measurement tools and organised a series of online training sessions and consultations. The GHG measurement toolkit first asked school implementers and country partners to enter basic information on the type of project they were tracking. The toolkit then determined the best method of measurement for this project to estimate the reduction in GHG emissions from project activities. Implementers were then asked to enter the direct or indirect emissions figures associated with their project activity (e.g., materials or energy consumed) and the duration of the project. The toolkit would then automatically generate the estimated GHG emissions reduction from the project. The Coordination Desk assisted countries in finding the relevant data and in navigating the toolkit.

A training workshop was held to walk country partners through the toolkit and build capacity for assisting school implementers in measuring the impact of their projects. In many cases, country partners took the lead in measuring the impact of project in their countries, inviting school implementers to participate in the project with the intention of conducting the measurements at their school the following year. In this way, the GHG measurement workshop became a train the trainer workshop, building longer term capacity in implementing schools.

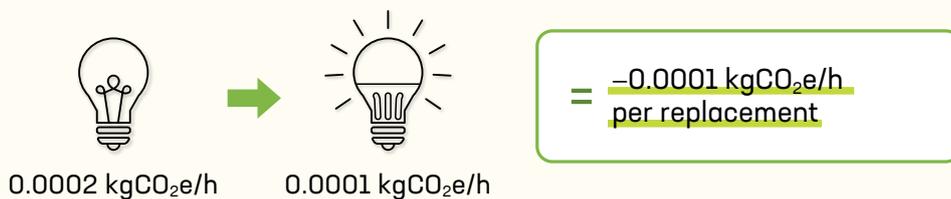
The Coordination Desk also developed a GHG measurement toolkit tutorial video that was shared with the country partners. This tutorial is opening available for school implementers to reference in the future and contains several examples of each measurement method.

Two methods of GHG measurement for small- or micro-scale initiatives

The first method, Bottom-up Estimation, measures emissions by multiplying the GHG reduction effect per unit of specific goods or services introduced with the amount of these goods and services the project put in. This method is suitable for initiatives which changes the goods, services or technologies to those generating less Greenhouse gases. Examples of such initiatives include installing energy-saving equipment or improving manufacturing processes. For these initiatives, each unit of the input, such as devices put in or processes improved, leads to the GHG emissions reduction. Thus, implementing schools can multiply the amount of the inputs made with the GHG intensity to calculate the total GHG reductions.

To illustrate, let's take the example of replacing incandescent light bulbs with LEDs. Let's assume that the electricity used to light an incandescent bulb in a given area is equivalent to 0.0002 kg CO₂e of greenhouse gases per hour and that we have 1,000 light bulbs in operation. Now, let's say that switching from incandescent to LED halves the power consumption. This would also halve greenhouse gas emissions. In this case, the change of one light bulb has a saving of 0.0001 kg CO₂e/h. Assuming that the project replaces 1,000 light bulbs and that the bulbs are switched on for 8 hours every day, 3202 days a year, we can calculate an annual reduction of 292 kgCO₂e.

Bottom-up Estimation



Total Reduction in the case of 1,000 replacements

$$0.0001 \times 1,000 \times 8\text{h/day} \times 365 \text{ days} = 292\text{kgCO}_2\text{e/year}$$

Note: this is not an actual figure

The second method, the "Before and after Comparison", conducts ex-ante and ex-post evaluation of specific indicators, such as waste, electricity, water, distance travelled, deriving from the project activities. Then the changes in these indicators are multiplied with the relevant GHG intensity. This method is suited for initiatives where the activity results in a reduction in products or services used or wasted. For example, projects such as trainings for food waste reduction, campaigns for water or energy saving, or switching from car to public transport to reduce the private car use, can apply this method.

Let's take the example of a project to reduce food waste. A school measures the amount of food wasted and finds that 30 kg of food is wasted per month. The project carried out trainings to avoid food waste. As a result, the measurement at the project end revealed that food waste had been reduced to 10kg per month. This means that the project has achieved a reduction of 20kg of food waste per month.

Before-and-after comparison



- = 20kg of food waste avoided per month
- = 20kg reduction of organic waste sent to landfill 

Total Reduction
 0.05kgCO₂e (per kg of organic waste sent to landfill)
 × 20kg (food waste reduced) × 12months × = 12kgCO₂e/year

Note: this is not an actual figure

Now, in this country, organic waste is sent to Landfill. When we looked at the GHG emissions generated by sending the waste to Landfill in our database, we found that each kg of organic waste generates 0.05kgCO₂e of GHG. Multiply 0.05kgCO₂e of emissions generated at landfill, by 20kg of food waste reduction per month and then by 12 months to get the GHG reduction per year, 12kgCO₂e.

GHG Emissions Reduction Results

The original set of school implementation plans called for each school to measure the GHG reductions associated with their projects. While many schools were able to do so, others faced resource and capacity constraints. Due to the strain placed on schools by the COVID-19 pandemic, many countries were not able to conduct a full accounting of the GHG reductions of all their projects. Country partners were encouraged to focus on just one project per school as a demonstration of GHG reductions potential where capacity was significantly strained. This poses challenges for comparing the relative impact of projects by country, as countries that experienced fewer or less severe COVID-related shutdowns and disruptions were able to measure a wider set of projects. As such, the GHG reductions reported should be interpreted as representative of a range of project types and sizes, often providing insight into a single project rather than the whole programme.

Despite the disruptions caused by the global pandemic, and the limitations with imposed on capacity for implementation and measurement of impacts, the results of the GHG reductions measurements across the GSSS programme have demonstrated a significant impact on school-level emissions. As shown in Table 4 below, the total annual measured impact from GSSS projects to date exceeds 91.38 tCO₂ equivalent.

Table 4: GHG Reductions from GSSS Projects

Country	GHG Reduction (tCO ₂ e)
 Brazil	1.8
 Cambodia	5.68
 Kyrgyz Republic	14.1*
 Namibia	4.325
 Philippines	16*
 South Africa	28.6*
 Suriname	3.3
 Uganda**	-----
 Viet Nam	25.2*
TOTAL	91.38

* Indicates countries where all projects were measured

** Indicates no data available for country at time of writing

Missing from this analysis is an assessment of spill-over effects in the local community. Specifically, the families of students have also been significantly impacted by many of the projects, not least of all awareness campaigns and trainings focused on consumption, material and food waste, energy use, and the shifting of some sustainable school project implementation from the campus to the household. While it is beyond the scope of the GSSS projects to measure such impact, it is nevertheless useful to bear in mind that such spill-over effects are present. Such family and community level impacts are a key component of sustainable lifestyles interventions, helping to ensure a broader impact with lasting effect.

Conclusion

Education for sustainable development and sustainable lifestyles are essential components of the global effort to achieve development models and ways of living that keep global warming within 1.5 degrees Celsius above pre-industrial levels. Recent research shows that fundamental shifts in the way people live their lives is required to achieve this goal and mitigate the worst effects of climate change for developing and middle-income countries. These new lifestyles must address local conditions and concerns, building capacity and resilience to persistent and emerging vulnerabilities such as extreme weather patterns, natural disasters, economic fluctuations, food insecurity, and access to electricity and digital infrastructure. Schools play a crucial role in training and educating the leaders, producers, and consumers of tomorrow, and as such are among the most impactful intervention points for creating innovative, locally relevant, and long-lasting pathways toward sustainable living.

The Global Search for Sustainable Schools has contributed to these efforts by facilitating sustainable school projects, teacher training, and the development of new curricula across the nine participating countries and 84 implementing schools. The programme empowered schools, teachers, and students to develop sustainable school projects that were locally relevant, responding to community needs and local environmental challenges such as persistent droughts, vulnerability to floods, and unstable access to nutrition and electricity in the community. The GSSS built capacity among school management, teachers, and local communities in planning and implementing projects with a sustainable development and sustainable lifestyles approach. The projects demonstrated the value of such approaches through concrete and positive impacts on daily life, educational outcomes, and school and family budgets.

By co-creating these projects with local stakeholders, the GSSS implementing teams have built capacity and resilience in their schools and communities. Additionally, implementing teams have built relationships with local government and business communities, winning allies for future projects and community

efforts. Such trust, a willingness to collaborate, and open communication are essential for transformative change to happen, whether at the family, school, or community level. These cooperative relationships are a significant outcome of the GSSS programme and will make further efforts by schools much easier in the future.

The GSSS programme has also demonstrated that any effort toward creating a sustainable school must necessarily start with teachers. Training teachers to be familiar with the concepts of sustainable development and sustainable lifestyles is a critical first step toward creating effective education for sustainable development and sustainable lifestyles. Additional training on new pedagogy and teaching tools can also greatly enhance the integration of ESD and ESL into subject matter teaching. Such trainings equip teachers with the language, tools, and reference materials needed to discuss complex subjects such as climate change, responsible consumption, circularity, and how lifestyles and daily choices fit into global systems of consumption, production, and waste. Teachers are thus better able to create impactful lesson plans that integrated traditional subject teaching with sustainable school projects such as school gardens, ecological conservation and restoration efforts, and waste management systems. Such teacher training can also be viewed as a long-term investment with the potential to spread knowledge to other schools as teachers are transferred to other locations.

The Global Search for Sustainable Schools also demonstrated the value of creating networks of schools and teachers working on sustainable school initiatives. The global nature of the GSSS provided a diverse set of schools developing and implementing a wide range of projects that addressed local conditions and concerns. By maintaining regular communication across the participating national coordinators and implementing schools, knowledge was able to flow across the GSSS programme. For some schools, this meant they were exposed to types of projects they had not considered before, while other schools demonstrated novel methods of implementation and community engagement. Schools were able to inspire one another and think together to overcome challenges that emerged during project implementation. Importantly, many national coordinators and schools developed close working relationships that will continue after the GSSS programme.

The GSSS included 202 sustainable school projects, touching on all aspects of school activities - classroom, extracurricular, infrastructure, and community. The impact of the projects among the school populations and surrounding community was large, despite the many challenges presented by the COVID-19 pandemic. While the programme directly and indirectly impacted on more than 55,000 students, 1,700 teachers, and countless community members in the nine countries, the potential for future impact is large. The groundwork laid by the GSSS projects and curricular upgrades has positioned the participating schools to be leaders in their countries and expand sustainable school activities at the national level.

The Global Search for Sustainable Schools has been one part of a much broader movement in pursuit of sustainable education. Efforts continue around the world in many countries through eco-school programmes, the introduction of new curricula focused on sustainable development that helps students to choose sustainable lifestyles, and national frameworks for action. Global initiatives have also emerged, such as UNESCO's ESD for 2030 Framework. Through the work of the GSSS, more teachers, students, school administrators, and government agencies have engaged in these processes. The legacy of the GSSS is a network of enthusiastic, empowered, and engaged teachers and students around the world, eager to carry the work forward locally and globally.

ANNEX

Country Profiles

Global Search for Sustainable Schools

Brazil

Cambodia

Kyrgyz Republic

Namibia

Philippines

South Africa

Suriname

Uganda

Viet Nam



BRAZIL

The search and application portion of the Search for Sustainable Schools was promoted in Brazil from late August to October 2019 and had its dissemination strategies based on Akatu's previous experience in projects for education for sustainable lifestyles focused on basic education schools. To reach out to all schools, including those outside of urban areas, the communication plan for the Search had both on-line and in-person strategies. Several initiatives were conducted to promote the search, such as: creation of a hot site and a call for submissions; dissemination kit, with several pieces for the submission dissemination (posts, email marketing, press releases); use of Facebook and Google Ads; live webinars to answer questions and share ideas with interested schools; national in-person workshops and roadshows for awareness raising at schools in different Brazilian regions; and use of Akatu's previous network, working in partnership with several schools and educational authorities or secretariats all over the country.

During the submission period, schools were invited to submit two action plans - one for the smaller fund option and one for larger fund. Brazil has five major regions, and it was decided to fund action plans for five public schools - one per Brazilian region.

The submission period was concluded with a total of 248 submissions (around 490 action plans) from all Brazilian regions. Akatu staff conducted an initial analysis, selecting the best 5 - 10 action plans per region. A selection committee formed by international experts participated in the selection process and graded all the finalists based on criteria such as School Governance, Teaching and learning, Students as Protagonists, Facilities and Operations, Community Partnerships, Potential to reduce GHG emissions and Conscious Consumption. The action plans with highest total points in each Brazilian subregion were selected to receive grants, and the one with most points was selected for the larger plan.

The implementing schools received the first part of the funding in February 2020 and started implementation of their action plans. This phase was initially planned to be concluded in August 2020; however, with the COVID-19 pandemic restrictions, the project implementation period was extended until November 2020.

One of the most important results of the GSSS in Brazil is the formation of a collaborative network amongst the implementer schools, which will keep on exchanging information, experiences and opportunities through online tools and ICTs even after the official conclusion of the project.

From the perspective of implementing schools, the major challenge has been pandemic restrictions. Most schools had planned to promote in-person workshops to engage students and the whole school community in project activities. Some of these activities were converted into on-line workshops, but due to structural conditions, the number of students, parents and other community members involved was not as big as initially planned.

From the Focal Point (Akatu) perspective, the main challenge was the monitoring process. All monitoring, supporting, evaluating, and follow up with implementers had to be done through on-line tools and school visits had to be cancelled. Most Brazilian schools are not used to working with indicators and specific measurement activities, so capacity-building and training had to be done on-line. With no school visitations, the opportunity to have more concrete exchange activities and to produce more elaborate media outputs and record materials was also lost.

In terms of results, despite of the pandemic restrictions, the outreach of the pedagogical activities from the project was very impressive. More than 1,000 people participated in at least 35 seminars, webinars, workshops, and pedagogical on-line activities. The total outreach is estimated at around 3,750 students.

As COVID restrictions led to continuous lockdowns in most Brazilian cities, reducing in-person activities at schools to almost zero during 2020, the measurement of greenhouse gas emissions reductions was challenging. To facilitate the calculation of these reductions, the estimate considered only one activity per school. Nevertheless, the GHG emission reduction for the whole period (January 2020 to July 2021) was very significant, with a total of 2.1 tCO₂eq.

Students pose in the new waste sorting centre, part of the waste management project implemented at Centro Estadual de Educação Leticeia Oliveira Maciel, Bahia, Brazil



Finally, this process has increased the sense of belonging for students and teachers in the implementing schools. As pointed out by one of the teachers, the chance to gather the school community and collectively discuss and plan the activities was transformative. “The main legacy of the project is a cultural legacy: [the community] we have assumed the responsibility for the school, and now it recognizes itself as a sustainable school.”



CAMBODIA

The Global Search for Sustainable Schools in Cambodia built on the previous success of the National Eco-Schools Programme, which was jointly developed and implemented by the Ministry of Environment and the Ministry of Education, Youth and Sports (MoEYS). The process of advertising the GSSS programme and soliciting applications from interested schools was designed and coordinated by the Ministry of Environment, including the Department of Environmental Education, and MoEYS. The GSSS planning team identified key criteria and indicators as considerations for selecting schools to participate in the GSSS programme. Additional input was generated through an international workshop held in the Philippines.

Interested schools were invited to submit sustainable school project plans for consideration by the selection committee, which included representatives from the Ministry of Environment and MoEYS. In total, six schools were selected - three high schools and three primary schools. The schools were located across the country in rural and urban communities.

The selected schools were chosen from the pool of 18 schools in the National Eco-Schools Programme that received the National Eco-Schools Award in 2019. These 18 schools were assessed based on the existing national guidelines for eco-schools, their past success of sustainable project implementation, and against the expanded criteria established by the Global Search for Sustainable Schools. The selection committee included representatives from MoEYS.

After the project approval process was concluded, the selected schools were to begin project implementation in February of 2020. Unfortunately, the COVID-19 pandemic caused schools in Cambodia to close early in 2020. Schools remained closed for most of the year. As a result, project implementation was significantly delayed, and many projects needed to be adapted.

Despite these challenges, all six participating schools have been able to successfully implement their projects with the support of school administrations, local government, and local communities. Projects implemented under the GSSS Programme in Cambodia include those focused on: water and energy savings; waste management and reduction; enhancing and expanding green spaces; campus calming and beautification; and contributions to reducing greenhouse gas emissions from campus activities and operations.

Even though all schools were able to successfully implement their projects, they faced many significant challenges to implementation caused by the COVID-19 pandemic. The most obvious challenge was the lengthy school closures experienced in many provinces that prevented students from being in the classroom and participating in school projects and new curricula for much of 2020 and 2021. In some cases, schools were also asked to serve as COVID-19 quarantine centres, which further limited the ability of schools to move forward with infrastructure projects. Many schools found it difficult to find local contractors to implement their projects under pandemic restrictions that prevented them from working. This was especially challenging for schools

*Teachers and students
in the net-enclosed
teaching garden at Svay
Chrum Primary School,
Svay Reang, Cambodia.*



located far from the city, where fewer contractors are available and demand for contractors was high during times when pandemic restrictions were relaxed. Additionally, many infrastructure and school grounds projects were further delayed, as regions experienced seasonal flooding.

The school projects had a wide range of net-positive impacts on their consumption profiles. Water consumption was significantly reduced through installing and upgrading pipe connection systems, water reuse systems, and wastewater treatment systems. These projects also had a direct impact on energy consumption by using high pressure and passive pressure water flows. The school garden projects were paired with composting halls, which reduced food waste and will improve the productivity of the gardens while reducing the need for fertilizers. Local resilience to the impacts of climate change was also developed through the construction of water retaining ponds, well pumps, and biodiversity gardens on campus.

As a result of the repeated disruptions to implementation, the measurement of greenhouse gas emission reductions from project activities was also impacted. Instead of measuring and documenting the impact of all 12 projects, each school measured one project to demonstrate the impact of their activities and build in-school capacity for measuring greenhouse gas reductions in the future. The results of the six projects measured showed an annual reduction of 5.68 tonnes of tCO₂ equivalent.

The GSSS Cambodia projects also had a significant impact on students, teachers, and communities. In total, more than 10,000 people were impacted by project activities, either through planning, training, learning, or participating in public events. From the six participating schools, 224 teachers benefited from professional training designed to increase their understanding of and ability to integrate education for sustainable development and sustainable lifestyles into subject matter teaching and to make use to new action-oriented pedagogical tools. More than 4,300 students benefited from improved teaching curricula focused on sustainable lifestyles and participating in school infrastructure and grounds projects like teaching gardens. A further 6,000+ people in the community, including families, local businesses, and representatives from local government benefited by participating in public events and awareness campaigns designed and implemented by teachers and students.



KYRGYZ REPUBLIC

THE SEARCH

The project working group developed national search criteria. After the approval of the criteria, a competition was announced among schools across the country to participate in the Global Search for Sustainable Schools.

The organization and conduct of the competition involved: The State Agency for Environmental Protection and Forestry - the leading organization, as well as three participating organizations: the Ministry of Education and Science (MES KR); the Kyrgyz Academy of Education; and the Republican Children and Youth Centre for Ecology, Local History and Tourism under the MES KR. The executing organization is the Public Association "Institute for Regional Development" and other interested organizations, including the Organization for Security and Co-operation in Europe Program Office in the Kyrgyz Republic, which joined later, at the stage of scaling up the project experience in 2021. The search was started from October 11 to October 30, 2019.

Schools were selected based on the global and national criteria set by the organizing committee. By order of the State Agency for Environmental Protection and Forestry a selection committee was created to select schools. The commission included representatives of the MES KR, the State Agency for Environmental Protection, experts in the field of education, environmental protection, and an anti-corruption commissioner to ensure transparency and objectivity.

A total of 4 winning schools were selected by this specially created commission based on the results of the submitted questionnaires. School project proposals were assigned points based on the selection criteria. The schools with the highest score were selected as the winners.

On December 11, 2019, the last meeting of the competition committee took place, which summed up the results of the competition. On December 17, 2019, the State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic hosted a kick-off seminar on launching the national initiative

entitled “Stimulating sustainable lifestyles by creating a network of sustainable schools.” At this seminar, the results of the competition were announced, and schools were officially announced as winners.

IMPLEMENTATION

The project planning process was launched on August 1, 2019. The implementation of the projects began in December 2019. All projects were completed in August 2021.

The main success of the GSSS programme was that teachers and students were very active and enthusiastic about their projects. Within the framework of the projects, infrastructural changes were carried out: greenhouses were built as educational and practical sites, landscaping of the territory of all schools was conducted, solar collectors for the school greenhouse were installed, drip irrigation was installed in each school, and in some schools, lighting was completely replaced with energy-efficient lamps, and arboretums and ethno-parks were planted.

The restored school greenhouse at School #69 T. Satylganov, Bishkek City, Kyrgyz Republic



The biggest challenge for schools was the COVID-19 pandemic, which brought major adjustments and changes to the project. As a result of the pandemic, many schools were placed under quarantine or closed for periods of time. During the pandemic, prices for equipment and supplies rose. Due to the pandemic, many project activities were adapted to be delivered over the internet. There was no direct contact between teachers and students for much of the project implementation period. An additional challenge was posed by the departure of resource teachers from participating schools. This became an unexpected problem for us, since the projects were carried out by these teachers.

■ IMPACT & MEASUREMENT

The GSSS programme in the Kyrgyz Republic engaged about 5,000 students, more than 300 teachers, and about 15,000 local parents, residents, and representatives of local communities. In total, more than 20,000 people were involved in the project. Within the framework of the programme, more than 100 seminars were held for teachers, students, parents, and representatives of local communities.

The impact of the GSSS projects on the environment is assessed as very positive. The combined amount of GHG emissions reduced by the 12 GSSS projects totaled 14.1 tCO₂ equivalent per year. The infrastructure of school territories has been improved, many trees, plants and flowers were planted, and hotels for insects, birdhouses, and anthills were built together with the students.

In addition, representatives of local communities, parents, local diasporas – in particular Turkish and Dungan – took an active part in the implementation of projects. Within the framework of the programme, these groups provided assistance and expert assistance to the schools of the Embassy of Turkey and Great Britain. Parents helped build greenhouses, and local communities helped schools with advice on planting vegetables, locating and designing greenhouses, drip irrigation, planting trees, and landscaping the school grounds. This project helped to draw the attention of many organizations and households to environmental issues and much more.



NAMIBIA



THE NATIONAL SEARCH

GSSS Namibia carried out its National Search in early 2020 between January and March. An advert was placed in the newspapers calling for schools to submit their applications. Many applications were received covering a range of project impact areas such as food and nutrition, water, energy, and waste.

The selection process took place in March 2020. A selection committee of experts from the Ministry of Environment, Forestry and Tourism, Environmental Investment Fund, and Namibia Chamber of Environment selected the best projects from various applicants for pilot implementation. A scoring form with a total of 160 points was used by the panel to score the applications against the set criteria. Schools that scored more than 135 points were then selected. As a result, a total of 40 projects from 17 schools were chosen for implementation.

Projects were selected against a set of criteria on the application form. The criteria were based on the whole-of-school approach. To be considered, projects had to fulfil or touch on the following issues:

- ✓ Facilities and operations
- ✓ Social-cultural sustainability
- ✓ Economic sustainability
- ✓ Community and partnerships

The selection committee also looked at how the project would contribute towards achieving SDG 12, and others, more specifically SDG 2, 3, 6, 7, and 13.

IMPLEMENTATION

The implementation process in Namibia was planned to take place for a period of one year and nine months. Although there were some delays with the initial start of the projects, all implementing schools have received their materials, and implementation is at an advanced stage.

Most schools implemented school gardens which are used to augment feeding programmes at schools and serve as part of the curriculum. Many of the schools had pre-existing small gardens; however, through the GSSS' they were able to expand their gardens.

Additionally, nearly all the schools have implemented water harvesting projects to supplement water used to irrigate school gardens, consumption, and for hygiene purposes.



Students tend to the crop in the school garden at Ediva Primary School, Oshana region, Namibia.



Several challenges were encountered during the project implementation. School closures due to the COVID-19 pandemic have had the largest impact on GSSS project implementation, preventing all participating schools to execute their projects as planned. Schools remained closed for extended periods of time over the course of the implementation period.

Moreover, movement during lockdowns was restricted, and this made transportation of materials to schools a little bit difficult delaying some schools to commence with implementations. It also impacted on the ability to secure contractors to carry out infrastructure projects and drove up the cost of project materials.

IMPACT & MEASUREMENT

The schools' capacities to contribute to sustainable lifestyles have been strengthened by the implementation of improved water and gardening infrastructure projects. The schools get drinking water for learners and irrigation water for the school gardens, keeping the school environment greener and more comfortable for learning. This is an important set of interventions given Namibia's subtropical desert climate where water scarcity is a challenge.

The GSSS programme has also made a great impact on community capacity as 10,199 learners participated in sustainable school projects, more than 200 teachers were reached through training, and around 3,000 households were impacted by project activities in the community. The GSSS has helped learners and teachers to better understand sustainability issues and equipped them to apply sustainable lifestyles principles to their future lives.

The programme has also helped school management to improve the ways in which environmental challenges are practically addressed on campus. Furthermore, the sustainable school projects have resulted in a cleaner school environment for participating schools due to a reduction in trash in the school environment, with most of the garbage being composted for the gardens. The project has also enhanced partnerships and collaboration between schools and communities as most communities took care of the school gardens during the pandemic lock downs.

To demonstrate the greenhouse gas reduction impact of the projects, schools measured the reduction of emissions from one set of projects – the installation of solar ovens. Five solar ovens were installed with an annual greenhouse gas emission reduction of 4.325 tCO₂ equivalent. The overall impacts of the 40 sustainable school projects implemented across 17 schools in Namibia are a reduction in carbon footprints and improved sustainable lifestyles at school.



PHILIPPINES

THE SEARCH

The Global Search for Sustainable Schools (GSSS) in the Philippines had a two-month period in 2019 for planning and searching for schools to participate in the program. In the same year, the biennial national search for Eco-friendly and Sustainable Schools by the national government through the Department of Environment and Natural Resources (DENR) was already in its 9th anniversary. This DENR Program was the major success factor that made the search process easier for the GSSS to start in the country. Thus, the Philippine Center for Environmental Awareness and Sustainability (PCEAS), Inc., the focal organization of GSSS in the Philippines, partnered with the national government through the DENR and adopted the schools representing various regions from the local search to become participants in the international search. PCEAS, Inc. and the DENR counterparts served in the selection committee. Government communication system, social media, and face-to-face workshop were used to communicate and organize the program in the country.

With the five school winners from the local search conducted by the DENR, additional GSSS-specific criteria were developed to evaluate the implementation plans of these schools based on Governance, School Facilities, Learning Modules, and Stakeholder Engagement. Initially, three out of these five schools were selected as winners for the international search; however, due to the Covid-19 pandemic, the set criteria were disregarded in favor of providing grants to all 5 schools instead, providing opportunity to implement all the projects that they proposed. The selected schools were guided to focus on projects which will enhance Education for Sustainable Development, better stakeholder engagement, and reduce GHG emission. Aside from PCEAS, Inc. and the DENR, the teachers, students and other stakeholders in the schools were very much involved in the planning process of the projects.

IMPLEMENTATION

The GSSS Philippines participating schools implemented projects aimed towards environmental sustainability from November 2019 up to 2021. Major adjustments were made because of the COVID-19 pandemic when schools were closed in the country. GSSS projects were mostly moved from schools to students' homes. Monitoring of student activity became a challenge due to pandemic restrictions and geographic situation. There were also COVID-positive cases among teachers and students. Extreme weather conditions such as droughts and typhoons also delayed project implementation. Limitations in internet, communication, and accessibility between teachers and students also posed a challenge in delivering lessons to students. These challenges were met with the schools' stronger drive to push through with teaching students and implementing their proposed projects.

Notable successes of the schools can be observed in the collaboration between the school, local government, community, and the parents to deliver lessons to students; transferring the greening and gardening activities from the schools to the students' own homes which helped in providing food for their families; innovation in the delivery of lessons through blended learning (e.g. virtual classes, learning modules, and other modes); and integrating health and safety protocols in schools following government-set standards. It can also be considered a



Students and teachers tend crops and learn about nutrition in the gardens at Gulayan sa Paaralan and Gulayan sa Tahanan schools, Philippines.

success on the part of the school to be able to partner with local government to solicit financial and material support for the projects. Private individuals and the community helped in setting up facilities, planting/gardening activities, and delivering lessons. Finally, despite geographic limitations and the pandemic, updating between partners and other stakeholders remained constant. It comes as a wonderful surprise and a sliver of hope for the country that these schools were able to push through with the implementation of their projects for sustainability and continue honing the young minds of their students.

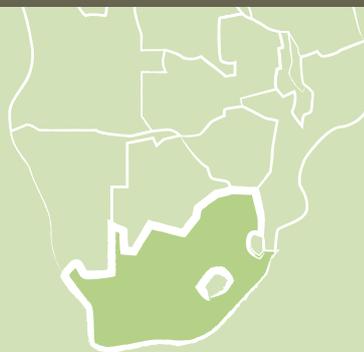
■ IMPACT & MEASUREMENT

There are both quantitative and qualitative impacts of the GSSS projects in the Philippines. Impacts of the projects to the people can be described through the level of participation of stakeholders, increase in environmental awareness, transfer of sustainability concepts to actual application, and developed partnerships between the stakeholders. In total, around 12,257 students, 320 teachers and staff, and private and government partners participated in GSSS projects. Nine events, such as virtual symposiums, seminars, trainings, and exhibits were held by the implementers to raise environmental awareness among students and other stakeholders. At least one health and safety system/facility for each school was established (e.g., clinics, guidelines, first aid/hygiene kits, etc.) to cater to student needs. Students were able to apply learned concepts such as waste segregation, urban gardening, energy conservation at their respective homes. Teachers, students, and partners actively participated in the promotion of sustainable lifestyles.

The environmental impacts of the projects were shown in reduced waste generation, environmental rehabilitation, food security, and energy and water conservation. There was a 20% - 30% decrease in school waste generation. A total of 680 trees and mangroves were planted in various sites near the schools. Seven rainwater harvesting systems were constructed in the schools. Two Coastal rehabilitation/cleaning effort were conducted. An increase in green spaces and improvement in aesthetic view in the schools and communities were observed. An increase in home vegetable and ornamental plant gardening in students' household and in the schools was also observed, as well as the partial shift to renewable energy in the schools, which decreased the GHG emissions of the schools.



SOUTH AFRICA



The GSSS project has made a significant impact in over 26 schools in South Africa through fun and meaningful action-orientated environmental lessons around key sustainability issues. During the 2-year project timeline, over 260 lessons were implemented involving over 5000 learners and 50 teachers. Of these schools, seven that excelled, were granted project up-scale funding that helped them to realise some of their environmental projects and in so doing have been able to collectively save approximately 28 tCO₂ equivalent per year. Over and above these savings and perhaps more importantly, the GSSS project has helped to foster an environmental ethic and love for our planet in both the learners and teachers that have been involved.

SELECTION PROCESS

We focussed our attention on schools in the largest province of the country, Kwazulu-Natal, to ensure that we were as effective and efficient as possible minimizing long distance travel. We shared the application form with the Ministry of the Environment and used social media platforms like Facebook and Instagram to advertise the opportunity. We also tapped into already established environmental school networks such as the International Water Explorer and Eco-Schools programmes and encouraged these schools to apply.

The application process was quite comprehensive and as such, was a way of screening schools, as only those who were really interested applied. Of the applications that were received, 26 were selected to receive our in-school support lessons. A further seven out of this group were chosen for project up-scale funding based on their exceptional commitment to the environment through learning and action over many years. The schools represented a diverse cross-section from deep rural to city schools; high, primary, and even pre-primary schools. They included Shea O'Connor Combined School; Phumelelani, Ebomvini and Scottsville Primary schools; Obed Mlaba Technical and Danville Park Girls High Schools and The Birches Pre-Primary.

EXPECT THE UNEXPECTED

Despite the disruption of the COVID-19 pandemic literally bringing the projects to a standstill for nearly three months, implementation continued regardless, albeit in slightly different ways, as we had to adapt our school support offerings to comply with lockdown measures.

Some of the novel and innovative ways we came up with included the following:

- ✔ Supporting short-staffed schools GSSS related in-classroom sessions (when schools re-opened)
- ✔ Assisting schools to get food gardens going again
- ✔ Set up tippy tap stands: as many measures/opportunities in place to keep hands clean.
- ✔ Providing COVID 19 & Environment/Nutrition Teacher Workshops

Over the course of the projects, we developed a series of action-orientated sustainability lessons, all of which had an action component and a task to complete before the next support visit to help ensure learning and follow-up continued. Over 260 lessons have been implemented. The table below shows some of the action-based lesson packs we developed to support our in-classroom sustainability lessons.

Wetlands and water purification	Climate crisis 1: The science, impacts, solutions
Water Auditing	Climate crisis 2: solutions and solar, building solar oven
Indigenous gardens and biodiversity	Power Pulses -Eating for the Earth
Alien invasive plants	Bees and Biodiversity
Eco-bricks	Endangered Wildlife
Waste not: Recycling	miniSASS: Stream Assessment
Permaculture and principles	Scientific Method

Finally, the Top GSSS teams implemented some meaningful and impactful projects which included vegetable tunnels, rainwater harvesting tanks, solar geysers, fuel efficient stoves, biodiversity gardens, recycling centre and a free-range happy hen project.

■ Cutting more than Carbon

“Mashesha stoves are perfect for us,” said environmental coordinator and HOD, Sebe Mbele of Phumelelani Primary. *“They save time and wood. They have less smoke and decrease our carbon emissions. Our cooks are over the moon because they knock out an hour earlier than before. Mashesha stoves rock!”*

The example of the Mashesha stoves demonstrates how one project can have multiple benefits. The school cooks, daily, for 1,300 learners on open fires. Apart from being very energy inefficient the cooks are subject to a huge amount of smoke inhalation. Three cooking points were replaced with energy efficient Mashesha stoves. This unique fuel-efficient stove produces virtually no smoke, uses 50% less wood and allow the cooks to stand, rather than bend and they can accommodate the 70kg iron pots. The carbon savings of this projects are significant at approximately 20tons CO₂e/annum.





SURINAME

The unprecedented growth in material wealth in the last two decades has also led to unprecedented decline in global resources and extreme increases in CO₂ in the atmosphere, contributing to global climate change. The global ecological footprint is in overshoot and the world is struggling to limit global warming to the 1.5-degree target.

The environmental and social impacts associated with our current lifestyles and consumption patterns have been a major contributing factor to “unsustainable” trends. Enabling sustainable lifestyles will require more than promoting green consumerism. Sustainable living goes beyond the consumption of the most sustainable material goods or services, into the re-design of ways of living, feeling, communicating, and thinking. Raising awareness, deepening knowledge, and building towards sustainable living must start at a local level and the best medium to accomplish that is through the schools in Suriname.

To do this we must engage students, teachers, and their communities to deepen their understanding and knowledge of sustainable lifestyles and how to incorporate these lifestyles into their daily routine and activities. The areas in which this can be done are:

- ✔ Build a shared vision of sustainable schools: achieve a common framework of understanding of sustainable lifestyles through a multi-disciplinary approach
- ✔ Integrate sustainable lifestyle principles and practices in school curricula
- ✔ Capacity building for achieving greening of the learning process and learning environments
- ✔ Empower teachers, students, and communities to adopt sustainable lifestyles through active participation and education

THE SEARCH

Through national workshops, consultation sessions and roadshows the shared vision of the concept of sustainable schools was presented and schools invited to apply to participate in the GSSS programme. These workshops, sessions and roadshows were held in all districts of Suriname, in Q2 of 2019.

Since there was a large diversity of projects received the decision was made that Suriname should have only one kind of project implemented at all participating schools. The decision was made that all schools should implement the same kind of project for the durability and sustainability of the project in Suriname.

Six schools were awarded a grant to implement a green garden at their school that followed the principles of permaculture. The selected schools were guided through the implementation process and help was offered on how GHG emission could be reduced.

IMPLEMENTATION

The implementation process run very late due to the arrival of the COVID-19 pandemic. We faced delay upon delay during the implementation process because all schools in Suriname were closed. Major changes were made during implementation, and more than ever new communication strategies were implemented to meet the project requirements. All six schools implemented their green gardens finally thanks to the huge efforts of school leaders, teachers, students, parents, and the surrounding communities. Without their strong support and adaptability, the projects would not have been possible.



Students and teachers learn in a permaculture garden in Suriname.

By means of new agricultural techniques such as permaculture schools were pushed to make efforts and contribute to a healthy lifestyle for their students and surroundings.

IMPACT & MEASUREMENT

The GSSS projects in Suriname impacted over 1,380 students, 103 teachers, almost 1,800 parents, six communities, and 300 community members.

The permaculture garden projects for schools were not only meant for gardening purposes but also to start the integration of subject matter teaching into the school gardens. Curriculum was developed for subjects including: Mathematics; Biology of Plants; Nature Education; Healthy Living; and Agricultural Techniques.

School lessons and assignments were made for the schools, and these will be implemented in the nation school curricula.

The participating schools were additionally challenged to make efforts to reduce the waste generated on campus. As a result of these extra efforts, waste generation was reduced by an average of 30% across all six schools. Also, systems for separating recyclables such as plastic water and soda bottles and paper were implemented in schools.

Greenhouse gas reduction associated with the permaculture gardens were also measured at 3.3 tCO₂ equivalent per year. In the future, measurement of impact will continue and include the impacts of waste management efforts.



UGANDA

The first step Uganda took as part of the Global Search for Sustainable Schools was to set up a Technical Steering Committee to guide the search and actual implementation processes. The committee was comprised of ESD experts from the National Environment Authority (NEMA); the National Planning Authority (NPA) the National Commission for UNSECO (NATCOM); Conservation Efforts for Community Development (CECOD) and Makerere University. The committee held its first meeting in Kampala in early October 2019.

The Committee established a set of national criteria in addition to the global criteria set by the Global Search for Sustainable Schools organising committee. The national criteria were informed by a review of criteria from eco-school and sustainable schools programmes from around the world. The following key issues were identified to guide the school and project selection process:

- ✔ **Individual level impact:** The project focuses on developing sustainability knowledge, skills, and values among students, and cutting across different categories of school staff including teachers and administrators.
- ✔ **School level impact:** The project should improve teaching and learning; curriculum; management of the school; planning; procurement; consumption; school budget and resource management of water, energy, food, and waste flows.
- ✔ **Sustainable practices at the community level:** The project demonstrates partnerships between the school and its community in furthering sustainable development and lifestyle processes; Good impact of the school sustainability agenda on the local community in terms of adoption of sustainable behaviours and practices; community involvement in the school sustainability agenda.

The Search was opened for all primary and secondary schools, inclusive of both public and private schools. The programme opportunity was advertised using existing education and ESD networks and communication channels, government channels, and advertisements were created, including for print media in national newspapers, radio, and television. Various online platforms were also used to share project adverts, including Eco-School Consortium, ESD Network Uganda, UNESCO, NEMA, SEEP Schools, Nature-Uganda, Forum for Education NGOs in Uganda-FENU, Uganda Wildlife Conservation Education Centre-UWCEC in conjunction with Wildlife Clubs of Uganda, and the National Water and Sewerage Corporation.

The selected schools included six primary and four secondary schools from the public and private sectors and were located in different districts across the country. The majority of schools were in the central districts, likely revealing a bias in where schools had easier access to the programme adverts through various media channels.

School projects were officially launched on 14 November 2020 by the Minister for Kampala City and was attended by representatives from the Ministry of Water and Environment. The Minister reiterated the government's support for education for sustainable development that is holistic, relevant, and of good quality.

The launch was followed by a capacity building workshop for all project implementers. The main objective of the workshop was to guide and equip the selected schools with the skills needed to develop fundable activity plans. The workshop gave a comprehensive overview of the entire concept of education for sustainable development and highlighted the need for schools to rethink and revisit methods of work to achieve sustainable development in the educational setting and beyond. The capacity building process also included exchange visits between schools to share experiences and assess activities already being implemented in some schools.

Project implementation was delayed due to the COVID-19 pandemic as schools were closed for a long period of time in 2020. Implementation was fully under way in April 2021 in all schools. Examples of the projects implemented include expanding school garden, fish farming, and livestock programmes; installing drip irrigation for school gardens; implementing waste management systems; using biogas digesters for energy; heat driers for making briquettes; water management programmes, and stewardship programmes for the local landscape.



Students transform paper waste into new paper and notebooks at Queen of Peace Primary School, Uganda



In total, more than 9,500 learners participated in and benefited from the GSSS sustainable school projects in Uganda. This includes the direct benefits from the facilities created by the projects, the knowledge of ESD gained from new curricula, and the benefits from working together to solve local problems. The GSSS laid a foundation for sustainability moving forward by building the capacity of a core team of 30 teachers and 20 members of school management.

Due to pandemic disruptions, it was not possible to measure the greenhouse gas reductions resulting from the school projects. However, all schools have reported a noticeable reduction in their consumption of water and energy. Teaching staff and administrators have been trained in how to measure greenhouse gas reductions from their projects using two different methodologies, and plans are in place to carry out these measurements in the next school year.

Finally, the GSSS in Uganda has helped to set up a new network of ESD champions among teachers, with plans to continue to develop the capacity of schools across the country. School exchanges are being planned, and further partnership with NEMA will ensure the sustainable schools projects continue in the coming years.



VIET NAM

Project activities were carried out in Viet Nam as part of the Global Search for Sustainable Schools (GSSS), a project under the One Planet Network Sustainable Lifestyles and Education Programme involving nine countries across the world. Funded by the United Nations Environment Programme, the project in Viet Nam is implemented by Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) from 2019 to 2021.

THE SEARCH

The kick-off workshop was conducted in December 2019 with the participation of different stakeholders and schools to present the GSSS programme goals, main activities, and implementation plans. At the workshop, ISPONRE announced the criteria to select the pilot schools and ask the schools to submit a proposal to participate in the program. The criteria were set as follows: (i) Commitment of school leadership to participate in the sustainable lifestyles programme; (ii) Represent different areas (i.e., city, suburb, and rural areas); and (iii) Public and private schools.

The call for interested schools was announced widely to ask for schools to submit sustainable school project proposals to participate in the program. Workshops were organized to guide the schools to develop their proposals on sustainable lifestyle to be submitted to the project. A template for preparing proposal was introduced and detailed guidance from environmental experts was provided to teachers. The ISPONRE worked with consultants to assess the proposals and select five primary schools to implement sustainable lifestyle projects. These schools have shown their wiliness and strong commitment to change student and teacher behaviours to protect the environment. Also, their proposed project plans satisfied the global and national criteria of the GSSS project and can be sustained in the future.

■ IMPLEMENTATION

Eco-challenges training

The project recruited consultants to develop training materials for teachers and school administrators, including three modules: (i) Strategy for development of sustainable lifestyle school; (ii) How to develop an Action Plan for sustainable lifestyle school; and (iii) Develop a proposal on sustainable lifestyle school. The Training of Teachers for the five pilot schools was carried out to guide the teachers on developing and implementing sustainable lifestyles in their subject teaching and in the school.

Designing website and online guidelines

The project worked to design a website which will be used as a hub to provide technical resources for the schools to access into the future. News and information from the project activities are also updated on the website. The website can be assessed at: <https://oneplanet.vn>

Supporting pilot schools to design and implement eco-challenges

The project has supported five primary schools to design eco-challenges for school students. The project also organized a meeting on 22 April (Earth Day) to share best practices on sustainable schools and encourage all teachers and students to sign an online commitment for supporting the development of sustainable schools.

Students implement the eco-school challenges focusing on 3 main thematic areas: (i) waste separation; (ii) reducing plastic waste; and (iii) planting of trees.

Waste is Resources - GSSS Viet Nam Experiences, changing young generation's mind-set

In addition, several awareness-raising activities were carried out in the five schools such as organizing painting contests and English contests on environmental protection, setting up a Green Library, and designing recycled products. Also, five Sustainability Clubs have been established and operated in the pilot schools to promote a sustainable lifestyle.

As a result, sustainable lifestyles have been integrated into the school curriculum and delivered to the pupils to gradually change their behavior in daily life. Strong supports from teachers, pupils, and parents played an important role in the successful implementation of the program.



The GSSS sustainable school projects integrated environmental issues into subject teaching and school management to boost student awareness and capacity to act to reduce waste. As a result, papers and plastic could be used as recycling material for building the new/green cities for all people.

IMPACT & MEASUREMENT

The project has mobilized more than 3,517 students in the program and more than 2,000 parents committed to practice at home. More than 700 Green Commitments have been registered through a website. The project has organized five teacher training courses and over 23 public events including consultation workshop, student contests. And communication activities at the national and school levels.

Environmental experts have worked closely with teachers to calculate the greenhouse gas emission reductions during project activities at schools. Data on food waste, plastic, and paper reduction from the five schools were collected and analysed. As a result, the total annual CO₂ emissions reduced was assessed at 25.2 tCO₂ equivalent.

In the upcoming time, the best practices and success stories of sustainable lifestyles from the pilot schools will be shared national wide for replication at other schools in Viet Nam. In addition, the students will act as message deliverers to gradually change their parents' and social behavior.



The Global Search for Sustainable Schools

Programme Synthesis Report 2019-2021

BRINGING SUSTAINABILITY TO SCHOOLS ACROSS THE WORLD

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