



New Generation School Annual Report Year 7 Implementation (January-December 2022)



January 2023
Phnom Penh CAMBODIA

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AFD	Agence Francaise de Development
CAM	Cambodia Association of Mentors
CDDE	Center for Digital and Distance Education
CFS	Child Friendly School
CICME	Cambodia’s International Conference on Mentoring Educators
CIES	Comparative International Education Society
CNI	Consonant Name Identification
CPD	Continuous Professional Development
CWPM	Correct Words Per Minute
DCD	Department of Curriculum Development
E2STEM	English E-Learning Science Technology Engineering Mathematics
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
FFF	Franks Family Foundation
FWR	Familiar Word Reading
GSED	General Secondary Education Department
HS	High School
ICT	Information and Communication Technology
IPM	Integrated Pest Management
KAPE	Kampuchea Action to Promote Education
KPI	Key Performance Indicator
LNI	Letter Name Identification
M.Ed	Master of Education
MoEF	Ministry of Economy and Finance
MoEYS	Ministry of Education, Youth, and Sport
NGPRC	New Generation Pedagogical Research Center
NGPS	New Generation Preschool
NGS	New Generation School
NIE	National Institute of Education
ORF	Oral Reading Fluency
PCR	Pupil Classroom Ratio
PED	Primary Education Department
PIU	Project Implementation Unit
PS	Primary School
PTR	Pupil Teacher Ratio
SBM	School-based Management
SRS	Secondary Resource School
STEM	Science Technology Engineering and Mathematics
TTI	Teacher Training Institute
TTO	Thontean Obrom
USE-SDP	Upper Secondary Education – Sector Development Program
VCESS	Vientiane City Education & Social Services Office
VNI	Vowel Name Identification
WPM	Words Per Minute

QUICK PROGRAM FACTS

Timeframe, Location, & Budget (All Sources)	
Start Date	January 2016
End Date	Open ended
Target Provinces	5 (Phnom Penh, Kampong Cham, Kandal, Kampong Speu, Svay Rieng)
Budget for Year 1 (2016)	\$ 1,218,000 (Secondary)
Budget for Year 2 (2017)	\$ 1,520,000 (Secondary) + \$40,000 (Primary) = \$1,560,000
Budget for Year 3 (2018)	\$ 1,576,000 (Secondary) + \$296,000 (Primary) = \$1,872,000
Budget for Year 4 (2019)	\$ 1,494,000 (Secondary) + \$250,000 (Primary) + \$163,000 (Tertiary) = \$1,907,000
Budget for Year 5 (2020)	\$ 1,494,000 (Secondary) + \$250,000 (Primary) + \$163,000 (Tertiary) = \$1,907,000
Budget for Year 6 (2021)	\$ 1,494,000 (Secondary) + \$250,000 (Primary) + \$163,000 (Tertiary) = \$1,907,000
Budget for Year 7 (2022)	\$ 1,417,000 (Secondary) + \$263,000 (Primary) + \$163,000 (Tertiary) = \$1,843,000
Unit Costs (Primary) (2021)	\$154/student (MoEYS-supported schools only)
Unit Costs (Secondary) (2021)	\$256/student
Beneficiaries	
Students Supported	7,970 (4,113 Girls)
<i>Primary Level</i>	2,436 (1,187 Girls)
<i>Secondary Level</i>	5,534 (2,926 Girls)
<i>Tertiary Level</i>	25 (Master Degree Candidates)
Teachers Supported	449 (219 Female) Note: Exclusive of Tertiary
<i>Primary Level</i>	102 (59 Female)
<i>Secondary Level</i>	347 (160 Female)
<i>Tertiary Level</i>	4 Lecturers, 1 Training Coordinator, 1 Master Mentor
Other Staff Supported	
School Administrators Supported	26
Librarians Supported	18
Counselors Supported	6
School Nurses Supported	6
Mentors Supported	24
Schools Supported	10
Primary Schools Assisted	4
Secondary Schools Assisted	6
Classes Supported	243
<i>Primary Level</i>	77
<i>Secondary Level</i>	166
Efficiency Indicators	
PTR Level	
<i>Primary Level</i>	1:21
<i>Secondary Level</i>	1:14
PCR Level	
<i>Primary Level</i>	32:1
<i>Secondary Level</i>	33:1
Gender Parity Index (Enrollment)	
<i>Primary Level</i>	0.95
<i>Secondary Level</i>	1.12



Project Work Activity on Khmer literature at Prek Leap HS

1. EXECUTIVE SUMMARY

General Overview:

The current report gives an overview of NGS operations during 2022. This is now the 7th year of government support to NGS reforms, which started in 2016. A key theme in programming this year has been the rapid return to ‘normal operations’ as the Covid19 Pandemic recedes. Because of the robust system of online learning and distance education in the NGS System, ‘Learning Loss’ issues appear to have been minimal. Indeed, EGRA score results at primary level this year exceeded all expectations. Thus, the high governance standards at New Generation Schools appear to have greatly facilitated the normalization process.

Although funding levels in the NGS System have been frozen since 2018, total financial support from MoEYS over the last seven years reached \$11.072 million with an additional \$1.187 million from private foundations or approximately 10% of the total. Total funding from all sources for NGS reforms since 2016, therefore, was \$12.259 million. Although New Generation Schools are now widely accepted by the public as a government-run reform, Public Private Partnership (PPP) continues to play a major role in the management and oversight of schools. This refers to private sector led innovations as well as day to day management. In this sense, the program provides an excellent model for future PPP collaboration.

As part of this year’s programming, the NGS System has assumed full responsibility for all New Generation Schools once supported by Child Fund, as the latter phased out its support at the end of 2021. Formerly supported schools in this regard include Kok Pring HS and Svay Prahut PS, both of which are located in Svay Rieng Province. While it has been difficult for the NGS System to support both schools without a ‘kaolkar’ decree attached to the official budget, the program was able to manage full support through a combination of parental support (\$30,000), internal KAPE funds (\$20,000), and a donation by the Franks Family Foundation (\$13,000). Based on a recommendation from MoEYS, both of these schools can now be included in the official budget in the request for 2023.



Unifying the NGS System: Library activities at Kok Pring HS in Svay Rieng. New Generation Schools in Svay Rieng are now under the direct oversight of the NGS Central Office.

Enrollment within the New Generation School System has started to peak as more and more schools achieve a full complement of grade levels that are engaged in NGS programming. For example, Prek Leap, Prek Anchanh and Kok Pring HS achieved coverage of Grades 7 to 12 this year after an incremental process of grade expansion spanning several years (2017-22). Similarly, Akheamahasei PS has also reached full coverage of Grades 1 to 6. Peam Chikong HS (Grade 7 to 11) is now the only school that has not yet achieved full grade coverage.

A key event during the reporting period included a Program Retreat that was organized at Hun Sen Kampong Cham HS, chaired by H.E. Dr. Hang Chuon Naron, Minister of Education, Youth, & Sport, and attended by senior Ministry representatives, as well as a representative from the Ministry of Economy and Finance (MoEF). This was the first NGS Retreat since 2017. The Retreat helped to clarify many matters including agreement to support all New Generation Schools with government funds, continuing support for NGS funding going forward, and multiple other matters in need of resolution.

Key Milestones:

The New Generation School System achieved a number of key milestones during the reporting period. These are summarized below:

1. **Normalization:** Rapid return to normal after relaxation of Covid19 restrictions.
2. **Accreditation Rate:** The Rate of School Accreditation reached 90% of all schools receiving investment.
3. **Parental Support:** Parental contributions to sustain NGS operations reached \$1.5 million by the end of 2022.
4. **Declining Unit Costs:** As parental contributions increased, government unit costs in supporting secondary schools dropped further from \$271/student last year to \$256/student in 2022.
5. **Empirical Research:** A number of new research articles on NGS appeared, helping to provide additional empirical validation of the effectiveness of NGS Reforms.
6. **Club Membership:** The profusion of subject clubs producing project work accelerated with reported club membership of over 5,731 students.
7. **Absorption of New Generation Schools in Svay Rieng into the National NGS System:** As Child Fund phased out its support to New Generation Schools in Svay Rieng, the national NGS System has been able to successfully absorb them into its oversight and support.
8. **Educational Facilities Completed:** The program reported the completion of 293 advanced educational facilities including science and ICT labs, color-coded classrooms, 21st Century Libraries, offices, auditoriums, clinics, faculty rooms, and counseling offices.

Important Metrics on Program Performance

As the 2022 school year ended, the project collected a great deal of information relating to key performance indicators (KPI's) that point to very positive outcomes such as performance on the national leaving examination and transition to university. Some of the most important of these outcomes are summarized below:

1. **Bac II Exam Pass Rate** reached 82%, 19% higher than national rate.
2. **A, B, and C Bac II Exam passes** comprised 43% of students, double the national rate.
3. **Transition Rate to University** reached 84%.
4. **Dropout Rate** declined to 1.3%.
5. **Medals and Awards:** 1,032 students received medals and awards during the year, smashing previous records.
6. **Student Projects:** A total of 1,792 student projects were completed during the year.
7. **Reading Proficiency at Primary Level:** Familiar Word Reading at Grade 1 exceeded the national average by 8 times while Oral Reading Fluency was 25 times higher.

Many of these KPI's tower over national rates suggesting that investments in governance seem to have had a major effect on terminal performance. This stands in marked contrast to many of the uni-dimensional development programs that focus primarily on curricular and teacher training inputs funded by the mainstream donors. These outcomes are particularly surprising when one considers that many of the New Generation Schools that are now top schools were once among the most poorly performing schools in their districts/provinces.

Key Performance Indicators Reported to MoEYS/MoEF

As NGS Reforms have been in progress for seven years, all indicators have now been achieved including the on-going administration of Critical Thinking Tests (which are trending above baseline values), accreditation of all secondary schools, and achievement of dropout rate targets (now less than 2%). Some indicator targets have been exceeded such as investments in infrastructure.

Summary of Key Activities at Secondary, Primary, and Tertiary Level

Secondary School Level

1. **Increasing Access to Preah Sisovath HS through Online Plus:** In order address strong demand for learning at Preah Sisovath HS, the school has continued its online programming extension known as Online Plus. There are currently 193 students enrolled in this program in Grades 7 to 10.
2. **New Collaborations, Partnerships, & Networking:** NGS continued to reach out to new partners who can help increase the relevance and quality of its programming. There are now six private sector partners including Facebook-Meta working with NGS to promote school-based innovations in learning.
3. **Extra-Curricular Activities & Student Clubs:** New Generation Schools at secondary school level have reported accelerating club activities in over 27 technical areas comprising 5,731 students.
4. **Networking Outside of the NGS System:** During 2022, the NGS Central Office has continued its outreach to additional partners including *Pannasastra International School*, *Sovannaphoum School Group*, and *Pour le Sourire de l'Enfant (PSE)*. These interactions ranged from large workshops to consultative meetings with senior officials.
5. **Implementing Cambodia Mobile School Governance Software:** The implementation of school management software continues to go well in all schools. The software platform in this respect is provided by *Cambodia Mobile*, a sophisticated school management platform that appears to offer the most comprehensive set of technical features for improved school management. The adoption of this software platform was adopted at the end of 2021 and has steadily been gaining speed as schools become more proficient in its use.
6. **On-going Investments in the Canteen at Preah Sisovath HS:** Preah Sisovath HS has completed the first stage of the construction of a canteen structure on the north side of the campus. The bottom floor of the structure housing the canteen itself has now been completed along with the partial completion of a second floor that provides additional classrooms for the New Generation School. The top floor is scheduled for completion in 2023.



Improved Food Services at Preah Sisovath: Canteen now fully operational.

7. **Project Work Fairs:** Project Work Fairs were discontinued during the pandemic due to restrictions on large gatherings but returned to schools in 2022 in a big way with nearly all schools organizing such events. Secondary school students created 1,450 projects while primary schools created 342 projects for a grand total of 1,792 projects for the year, smashing the pre-pandemic record of 490 projects.
8. **Critical Thinking Tests:** During 2022, Critical Thinking Post-tests were administered to student cohorts in Grade 9. Students demonstrated performance that exceeded baseline scores in five out of the seven test batteries. Critical Thinking skills where students showed regression included Classification and Conceptual Analysis skills. Nevertheless, the Post-test mean score over all batteries was still higher than baseline, thereby achieving this KPI.
9. **Collaboration with USE-SDP2:** The NGS System continued to collaborate with the Upper Secondary Education – Sector Development Program 2 (USE-SDP2) in terms of helping to mainstream NGS programming concepts into this ADB-funded project. During the reporting period, NIE Trainers working for USE-SDP2 visited NGS libraries to help replicate the enhanced library services observed into USE-SDP2 Secondary Resource Schools (SRS). USE-SDP2 has also redesigned SRS libraries so that they incorporate some of the design ideas used in NGS libraries.
10. **Extracurricular Activities and Club Formation:** As New Generation Schools become more mature, they are becoming increasingly sophisticated and skilled in promoting the profusion of student clubs. NGS Students tend to be highly motivated, forward thinking, and self-directed. Although the NGS Central Office has already documented eight club manuals, schools are racing ahead in the development of new clubs in a multitude of different areas. Already, New Generation Schools at secondary school level have reported club activities in over 27 technical areas involving 5,731 students, using the framework promoted in the eight foundational manuals described earlier.
11. **Student Counseling Services:** Counseling services are an important feature of the overall learning experience at a New Generation School. Each school has one full-time Counselor with a private office to facilitate private meetings with students. In 2022, Counselors reported that they had identified 209 students at risk and had provided individualized counseling to 777 students and workshops that had benefited 3,161 students.

Primary School Level

12. **Overview of Programming in NGS Primary School Sites:** The four New Generation Schools at primary level completed a transition this academic year back to face-to-face learning and a 35-hour study week, as per NGS guidelines. The vigorous online and distance education program at NGS Primary seems to have mitigated the worst effects of Learning Loss seen in other schools. EGRA test results have been excellent in the early grades and helps to validate school reports that the presence of Learning Loss has been minimal. All primary schools have also undergone accreditation visits



Summary of counseling services in a New Generation School.

this year and three have so far been accredited.

13. Pilot in Coding and Robotics: As per a request from the Minister of Education, Youth, and Sport, the NGS System has sought to focus on introducing 21st Century curriculum content into the public education system. One important pilot that started in 2022 to achieve this refers to the partnership between a software company called Mango-STEEMS and the NGS System. MangoSTEEMS has agreed to discount software licenses to the program so that licenses for several innovative coding programs. A total of 195 students are currently participating in the pilot. At the same time, 8 teachers at these schools have been trained and certified to teach this program.



New science lab facilities at Akhea Mahasei PS in Kampong Speu.

14. Education Service Upgrading at Primary Level: The current reporting period saw the completion of major investments in science and ICT Labs in Akhea Mahasei PS and Angkor Ban PS. Each school now has 25 ICT workstations for students in Grades 4 to 6 so that they can study ICT for at least two hours per week, as per NGS operational guidelines. Science labs and Student Clinics are now also up and running in both schools with considerable investments having been made in equipment, materials, furniture, and teacher training.

15. Early Grade Reading Assessment Results: In collaboration with the KAPE M&E Unit, the NGS Central Office completed the administration of EGRA tests during the reporting period. About 261 children in all four schools participated in these assessments in which children were chosen randomly from selected classes/grades. The results this year were truly excellent with nearly all children demonstrating very high letter recognition skills (36.1 letters per minute on average) as well as very high levels of familiar word reading (30.9 words per minute).

New Generation Pedagogical Research Center

16. Graduation and Posting of New Mentors: A total of 23 graduating Mentors who completed their studies as part of Cohort 3 in 2022 will join 57 Mentors from Cohorts 1 and 2 who have already completed their studies in mentoring at the Center. A total of 80 Mentors have now been trained at the Master's Degree Level at NGPRC.

17. New Intake at NGPRC: After an advertising campaign to recruit a fourth cohort into the Master's Degree Program, a total of 152 individuals applied for admission. This strong response implies that there is still strong interest in the mentoring program at NGPRC. Following a rigorous selection process, 25 candidates (or 16% of those applying) were eventually selected for admission. These selected candidates were matriculated into the Master's Degree Program in September 2022.

- 18. Moving from Virtual to Face-to-Face Practicum Experience:** As restrictive conditions associated with the Covid19 Pandemic continued to recede, Cohort 3 has been able to experience a fully face-to-face program of learning for the first time in the Center's short history. This face-to-face modality of learning also applied to the 3-month Practicum that took place between May-July 2022.
- 19. Documenting Guidelines on Different Modalities of Mentoring:** NGPRC continues to pilot and document different modalities of Mentor placement including school-based, Secondary Resource School-based, TTI-based, and project-based modalities. These different modalities of placement will help MoEYS gain the maximum benefit from the investment in Mentor training that it is currently providing.
- 20. Revisions in the Master's Degree Program Curriculum and Syllabus:** The Mentoring Program at NGPRC continues to be a dynamic and evolving study program within the NIE. This is particularly true of the Master's Degree Program Syllabus, which is currently undergoing its fourth revision. These revisions are intended to reflect new global trends in education, especially as this concerns the impact of the Covid19 Pandemic on learning.
- 21. Collaboration with the NIE and USE-SDP2 Project:** To help facilitate the efforts of the USE-SDP2 Project to upgrade NIE, the Center has membership in several development committees including the Research Development & Innovation Committee as well as the Curriculum Development & Innovation Committee. Most recently, the Center has helped the Institute to develop the statutes of an Alumni Association for NIE, based on its experience in setting up the Mentoring Association of Cambodia. Finally, NIE has asked the Center to help support technical improvements at both the Primary and Secondary Practice Schools, which are adjacent to the NGPRC building.

Challenges Going Forward

- 1. Prospects for Sustained Operation:** In general, the prospects for sustained operation in most New Generation Schools are quite good although it is important to remember that there is some variability between schools, as well. This is particularly true among schools located in rural areas.
- 2. Articulating a Coherent Vision for a Free-Standing Accreditation Unit:** The need for an independent and expanded NGS Accreditation Office is becoming increasingly urgent, as more and more schools require annual accreditation.
- 3. Dealing with Anti-Education Reform Teachers at Prek Leap HS:** NGS has recently faced one of the most serious threats to its integrity at Prek Leap HS. At this school, a group of anti-reform teachers have joined together to try to shut down NGS Reforms and set up an alternative 'regular' school where 'rien kua' classes and other corrupt teacher practices would once again be allowed. The MoEYS has called for a compromise in which students should be allowed to choose whether they would like to attend the New Generation School or a non-NGS facility run by anti-reform teachers.
- 4. The Challenges Facing NGS Programming in Rural Areas:** As noted earlier, New Generation Schools in rural areas face some significant challenges in terms of their financial sustainability due to the more limited ability of local parents to make significant contributions to the school to cover real operational costs. As a result, sustained operation of New Generation Schools in rural areas will require a firm commitment from government to fund the Social Equity Fund so that shortfalls such as this can be made up from public funds.

- 5. *Parallel Project Structures Supporting NGS Expansion:*** As the ADB considers whether it will help fund an NGS Expansion under loans currently under consideration, current funding arrangements for New Generation Schools through the NGS Central Office may be changing. The new project funded under the ADB loan is called CamSTEPUp and currently has an NGS Component. This project would likely have its Project Implementation Unit and would not provide funds to the NGS Central Office. Depending on the direction and evolution of new funding for New Generation School expansion, there may be significant challenges in trying to coordinate activities among parallel implementing structures and units. The NGS Policy Framework will certainly help to ensure convergence among different projects, but coordination may still be a challenge.
- 6. *Piloting Different Modalities of Mentor Placement:*** The NGPRC has been experimenting with different modalities of mentor placement over the last year (e.g., school-based, SRS-based, TTI-based, etc.). These different modalities of mentor placement are having a very positive effect on teacher upgrading activities and are helping to leverage the impact that the NGPRC can have on various aspects of teacher training within the public education system. The Center is also considering other modalities of placement such as Province or District-based Mentors who could help support teacher upgrading activities at that level as well.
- 7. *Issues of Branding and Accreditation:*** As New Generation Schools become increasingly established and well-known to the Cambodian public, there has been growing interest in the high governance model that they use to achieve high standards of educational quality. Although NGS practitioners are very happy to see the strong interest in the evolving educational model used in New Generation Schools, there have been some developments of concern, as some private schools actually start calling themselves New Generation Schools, though they have not passed any accreditation review. Such self-designations could hurt the NGS Brand and lead to a dilution of what it means to be a New Generation School.
- 8. *Need to Better Rationalize Financial Management among Member Schools:*** The success of parental fund raising has led to a huge increase in parental donations, which schools now report exceed \$1.5 million. While NGS programmers are very pleased by the tremendous response of parents to support NGS Reforms with their pocketbooks, there is also concern that the rapid increase in resources may start to overwhelm mechanisms in place for responsible and accountable management of new funds. In view of these challenges, KAPE will hire a financial consultant in 2023 to better document rules of financial management in schools (e.g., incentive increases must be subject to board approval) to ensure fully transparent and accountable use of parental funds.
- 9. *Inability of Angkor Ban PS to Achieve Accreditation:*** All schools in the NGS System are now accredited save one – Angkor Ban PS. The reasons provided for the ‘decline to accredit’ conclusion of the Accreditation Subcommittee relates mainly to an attitude problem by the school director. These issues have been reported by the Accreditation Subcommittee to both the National and Provincial Board and it is hoped that a red carpet talk with the school director will lead to a more successful accreditation visit in 2023.



Hands-on Science: Students at Sisovath HS use classroom-based microscopes to observe and document their study of plant cells. Practical exposure to scientific principles is one of the hallmarks of education in the New Generation School System.

2. BACKGROUND

2.1 Historical Evolution of NGS Reforms

The New Generation School System completed its seventh year of implementation in December 2022. New Generation Schools refer to important reforms within the public education system that have created autonomous state schools with significant freedoms linked to the condition that they innovate. The establishment of New Generation Schools represents the culmination in educational reforms that accommodate a two-track development approach for the education system. Two-track development refers to high and low investment strategies to develop the education system that avoids a lowest common denominator approach that is popular with so many donors. Such an approach reflects a conscious decision on the part of the Ministry of Education, Youth, and Sport (MoEYS) to make a long-term commitment to high investment schools that will produce the high-quality human resources needed to turn the education system around in the long run. Such an approach minimizes the risks associated with investments in a ‘minimum standard’ for the rest of the country’s schools, which often results in a ‘race to the bottom’ that inadvertently undermines human resource development.

The two-track development strategy sometimes generates controversy within Cambodia’s education system in which New Generation Schools have become the best exemplar of a ‘high investment’ approach while most conventional projects funded by multi- and bilateral donors opt for a focus on ‘low investment’ strategies where the main goal is a ‘minimum standard.’ Some of the key characteristics of each development approach are summarized in Box 1.

New Generation School Reforms started in 2016 and currently comprise six secondary schools, four primary schools, and a tertiary institution, known as the *New Generation Pedagogical Research Center*, that trains teacher mentors (mostly for NGS placement) at the National Institute of Education in Phnom Penh. New Generation Schools are akin to ‘charter schools’ and operate as highly autonomous educational institutions within the public education system. The establishment of such schools is intended to promote educational reform and innovation. These ten New Generation Schools within the NGS System receive support both directly or indirectly from MoEYS as well as the Franks Family Foundation, Child Fund, and the Oak-tree Foundation (though the last two have since phased out their assistance).

The roll-out of New Generation Schools is now in its seventh year. Although funding levels have been frozen since 2018, total financial support from MoEYS over this period reached \$11.072 million this year with an additional \$1.187 million from private foundations or approximately 10% of the total. Total funding from all sources for the New Generation School Initiative reached \$12,259,000 this year (see Table 2.1). Non-state sector development partners continue to play a major role in NGS programming, particularly as this concerns the temporary credits provided to the NGS system during the long period at the beginning of the fiscal year when government funds are being processed.

BOX 1: Two-Track Development Approach for Education Reform

High Investment Track

- Maximal Standards
- Bottom-up Implementation
- Long-term Commitment/Permanent Institutional Arrangements
- Highly sustainable due to strong ownership by stakeholders as well as intensive parental support

Low Investment Track

- Minimum Standards
- Top-down Implementation
- Implemented through short-term projects
- Questionable sustainability after disappearance of project implementation frameworks

The New Generation School Initiative spent the period 2016-18 in an expansion mode, adding two or three schools to the system each year. Since that time, NGS reforms have entered into a period of consolidation and budgetary support for expansion is currently on hold, particularly as the Covid19 Pandemic severely affected government revenues. Unlike many government programs, NGS reforms are funded primarily through government tax revenues rather than through international development bank loans and grants, in which donor agendas and predilections often hinder freedom in design and implementation. This lack of donor interference may be one of the reasons why NGS Reforms have been so successful.

Table 2.1: Investment in New Generation Schools at All Levels, 2015-22

Year	MoEYS	Franks Family Foundation	Child Fund Australia	Oaktree Foundation	Total	Schools & Institutions Receiving Investment
Secondary Schools						
2015	\$374,000	--	--	\$124,000	\$498,000	2
2016	\$355,000	\$141,000	\$150,000	\$74,000	\$720,000	3
2017	\$1,270,000	\$100,000	\$150,000	\$0	\$1,520,000	5
2018	\$1,417,000	\$59,000	\$100,000	\$0	\$1,576,000	6
2019	\$1,417,000	\$-- ¹	\$77,000	\$0	\$1,494,000	6
2020	\$1,417,000	\$-- ²	\$77,000	\$0	\$1,494,000	6
2021	\$1,417,000	\$-- ³	\$77,000	\$0	\$1,494,000	6
2022	\$1,417,000	\$-- ⁴	\$0	\$0	\$1,417,000	6
Total	\$9,084,000	\$300,000	\$631,000	\$198,000	\$10,213,000	6
Primary Schools						
2017	\$40,000	--	--	--	\$40,000	2
2018	\$296,000	--	--	--	\$296,000	2
2019	\$250,000	--	--	--	\$250,000	2
2020	\$250,000	--	--	--	\$250,000	2
2021	\$250,000	--	--	--	\$250,000	2
2022	\$250,000	\$13,000			\$263,000	4*
Total	\$1,336,000	\$13,000	--	--	\$1,349,000	4*
New Generation Pedagogical Research Center-NIE (Higher Education)						
2019	\$163,000	\$15,000	\$30,000	--	\$208,000	1
2020	\$163,000	\$0	\$0	--	\$163,000	1
2021	\$163,000	\$0	\$0	--	\$163,000	1
2022	\$163,000	\$0	\$0	--	\$163,000	1
Total	\$652,000	\$15,000	\$30,000	--	\$697,000	1
GRAND TOTAL	\$11,072,000	\$328,000	\$661,000	\$198,000	\$12,259,000	11

*Includes one self-supporting primary school and one supported by FFF.

¹ Does not include \$272,000 interest-free loan to programming while government-funding was processed.

² Does not include \$330,000 interest-free loan to programming while government-funding was processed.

³ Does not include \$365,000 interest-free loan to programming while government-funding was processed.

⁴ Does not include \$282,000 interest-free loan to programming while government-funding was processed.

In 2019, MoEYS also made a tactical decision to establish a training and research Center on the campus of the *National Institute of Education* that intensively trains teacher mentors working in New Generation School sites. The establishment of this Center, known as the *New Generation Pedagogical Research Center*, greatly facilitates the expansion of New Generation School reforms by enhancing the availability of human resources. Three cohorts of mentors comprising 82 Mentors have graduated from the Center since August 2020. This injection of highly trained personnel has enabled the NGS system to establish a school-based mentoring system for the first time in Cambodia's history in which the mentors have been intensively trained in a Master's Degree Program that focuses on mentoring as their primary duty.

2.2 General Overview of Operations during the Reporting Period

Program Normalization: A key theme in NGS programming since the 2022 school year started has been a full return to normal school operation, as the number of Covid19 cases dropped dramatically. This has meant a resumption of face-to-face classes, normal operating hours, and many activities such as field trips, exposure visits to Thailand, Parent-day Exhibitions, and many other activities that had to be curtailed or cancelled during the pandemic. This return to normalcy has greatly bolstered the quality of NGS learning environments once again.

Program Consolidation Resulting from Phase-out of Child Fund Support: As part of this year's programming, the NGS System has assumed full responsibility for all New Generation Schools once supported by Child Fund, as the latter phased out its support at the end of 2021. Formerly supported schools in this regard include Kok Pring HS and Svay Prahut PS, both of which are located in Svay Rieng Province. These developments mark the conclusion of two 3-year cycles of Child fund investment in the NGS System (2015-21). While it has been difficult for the NGS System to support both schools without a 'kaolkar' decree attached to the official budget, the program has been able to manage full support to these schools through a combination of parental support (\$30,000), internal KAPE funds (\$20,000), and a donation by the Franks Family Foundation (\$13,000). NGS Sites in Svay Rieng are significant in that they provide valuable experience about how to replicate New Generation School programming in rural sites, which differs from most NGS sites located in urban and semi-urban areas.

Enrollment Trends: Enrollment within the New Generation School System has started to peak as more and more schools achieve a full complement of grade levels that are engaged in NGS programming. For example, both Prek Leap and Prek Anchanh HS achieved coverage of Grades 7 to 12 this year after an incremental process of grade expansion spanning several years (2017-22). Similarly, Akheamhasei PS has also reached full coverage of Grades 1 to 6. Peam Chikong HS (Grade 7 to 11) is now the only school that has not yet achieved full grade coverage.

It should also be noted that there has been a massive influx of students from the private sector into the NGS System, especially at schools such as Preah Sisovath HS where administrators are reporting that about 60% of the current enrollment were formerly enrolled in private schools. This demonstrates that New Generation School reforms are achieving one of MoEYS' key goals, which is to arrest the alarming drain of middle-class students from the public schools into the private school sector. These historical trends threaten to make public schools the preserve of the poorest students while impoverishing the public sector of the best talent.

Bac II Test Results: This academic year marked a major increase in the number of New Generation Schools sitting for the national leaving examination, also known as the Bac II Examination. This occurred as whole school expansion finally reached Grade 12 this year in several schools including Prek Leap, Prek Anchanh, and Kok Pring High Schools. These schools joined Preah Sisovath and Hun Sen Kampong Cham HS in sitting for the exam. Nearly 600 NGS students sat for the examination with a pass rate of about 82% across all 5 schools. This compared with a national pass rate of 69% (Natural Science only).

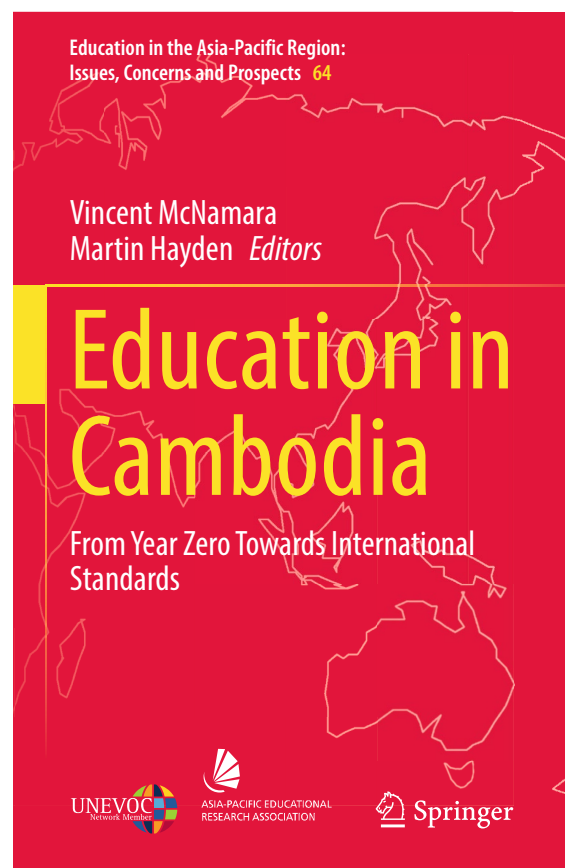
New Generation School Retreat: Another key event during the reporting period included a Program Retreat that was organized at Hun Sen Kampong Cham HS and chaired by H.E. Dr. Hang Chuon Naron, Minister of Education, Youth, & Sport, and attended by senior Ministry representatives, as well as a representative from the Ministry of Economy and Finance (MoEF). This was the first NGS Retreat since 2017. The Retreat helped to clarify many matters including agreement to support all New Generation Schools with government funds, continuing support for NGS funding going forward, the relationship between NGS and possible ADB-funding of NGS, and multiple other matters in need of resolution. A fuller explanation of the Retreat is provided in **Section 3.9**.

Visit from NGS/Laos: During the reporting period, New Generation Schools in Cambodia were visited by a delegation from Lao PDR, which is seeking to extend the NGS concept there. This initiative has been delayed by the spread of Covid19, but is now entering a period of full implementation this year with the support of the Franks Family Foundation. The Ministry of Education and Sport (MoES) of Lao PDR sent a small delegation of officials from the local education authority as well as key project staff to learn about the Cambodian experience in NGS implementation in June 2022 (see below).

Improved Profiling of NGS in the Research Literature: The profile of New Generation Schools in the international literature continued to become more prominent with the publication of several articles on New Generation Schools by Springer Press (see inset) as well as the publication of an anthology of multiple research articles on NGS Reforms by KAPE (see Section 3.13). The new Springer publication is called, *Education in Cambodia: From Year Zero Towards International Standards* and was just released in 2022. These publications increase the standing of New Generation Schools and provide empirical evidence for their success.

2.3 NGS Expansion into Lao PDR

As noted above, New Generation School Reforms are now spreading to Lao PDR, thanks to the support of the Franks Family Foundation. Mr. Simon Franks, the Chairperson of FFF visited the NGS Program in June 2022 along with a delegation from Laos that included the first NGS School Director in Lao PDR as well as representatives from the Vientiane City Education and Social Services Office



(VCESS). This visit helped to reinvigorate relations between Laos and Cambodia after a long hiatus due to the Covid19 Pandemic. There is hope that the two programs can help one another and share experiences and personnel as programming in Lao PDR gets started. The success of NGS in Lao PDR will be critically important in order for these reforms to generate more international funding by showing that they can work in multiple national settings and not only Cambodia. NGS Cambodia (NGSC) has been providing significant technical advice to Lao PDR with respect to the evaluation and selection of teachers, the development of training programs (using manuals developed in Cambodia), and general approaches to school management and development.



Internationalizing New Generation Schools: Representatives of Vientiane City Education & Social Services Office meet with the Director of Hun Sen Kampong Cham HS in Cambodia.

3. KEY ACCOMPLISHMENTS & ACTIVITIES DURING THE PERIOD

System-wide Activities

3.1 Update on Programming Scope

Enrollment in the NGS System remained stable this year at about 7,970 students at the start of the 2022 academic year across both the primary and secondary school sectors (see Table 3.1). This compares with 7,981 students last year. *Unit costs have also continued to decline, dropping from \$271/student last year to \$256 this year for secondary level; primary school unit costs have increased slightly from \$149/student to \$156.* The decline in unit costs at secondary school level has been driven mainly by the completion of infrastructure upgrading and the shift in financial support to parents in accredited schools. Costs at primary school level have increased slightly as Akhea Mahasi PS has sought to reduce its enrollment in order to bring the school in line with PCR requirements for accreditation.⁵ With the acceleration of school accreditations, the NGS System should see a continuing diminution in unit costs. Analyses of Pupil Class Ratios and Pupil Teacher Ratios also indicate that most schools are maintaining accreditation standards to keep PCR and PTR levels below a level of 36:1 in order to ensure that large class sizes do not dilute educational quality. In this respect, the overall PCR and PTR level at secondary school level are 33:1 and 14:1, respectively; while for primary school level they are a respectable 32:1 and 21:1, respectively.

Table 3.1: Enrollment, Investment Sources, & Historical Background across all New Generation Schools (2022-23)

Province	School Name	Enrollment (2022-23)	No. of Classes	Teachers	Investment Source	Establishment Date	NGS Development Model
Secondary School Level							
Phnom Penh	Preah Sisovath HS	1,156	32	79	MoEYS-FFF	Oct 2015	School in a School
	Prek Leap HS	1,168	36	91	MoEYS-FFF	Oct 2017	Whole School
Kampong Cham	Hun Sen Kampong Cham HS	509	15	34	MoEYS-FFF	Oct 2015	New School/Dying School
	Peam Chikorng HS	1,047	31	64	MoEYS-FFF	Oct 2018	Whole School
Kandal	Prek Anchanh HS	1,175	37	80	MoEYS-FFF	Oct 2017	Whole School
Svay Rieng	Kok Pring HS	479	15	37	Child Fund-FFF	June 2015	Whole School
Total	6 schools	5,534	166	385	3 Sources	--	3 Models
Unit Costs/PCR/PTR	--	\$256	33:1	14:1	--	--	--
Primary School Level							
Kampong Cham	Demonstration School	470	18	22	Self-supporting	Oct 2015	New School/Dying School
	Angkor Ban PS	363	12	25	MoEYS	Oct 2017	Whole School
Kampong Speu	Akhea Mahasei PS	1,256	35	49	MoEYS	Oct 2017	Whole School
Svay Rieng	Svay Prahut PS	347	12	21	Child Fund	June 2015	Whole School
Total	4 Schools	2,436	77	117	3 Sources	--	2 Models
UnitCosts/PCR/PTR	--	\$154	32:1	21:1	--	--	--
GRAND TOTAL	10 Schools	7,970	243	502	3 Sources	--	3 Models

⁵ PCR levels in a school must be 36:1 or less in at least 80% or more of classes in order to receive accreditation.

3.2 Entrance Examination Results

The high quality of educational services at New Generation Schools continues to generate high demand among the public for admission to such educational facilities. Unfortunately, the space available also continues to exceed supply. This problem is most acute at secondary school level where only 60% of applying students could be accommodated (see Table 3.2). It should be noted in this regard that New Generation Schools have strict operational criteria that do not allow Pupil Class Ratios to exceed 36:1 in order to safeguard educational standards. If PCR levels were allowed to hit 50, 60, and 70 to 1 as is the case in other schools, it would greatly undermine the use of more modern teaching methods. Admission to Preah Sisovath HS continues to be the most restrictive with 1,136 students applying for only 547 available seats leading to an admission rate of 48%. The use of entrance examinations appears to be the only fair way to ration the available seats available. Admission at primary level New Generation Schools relies less on testing for admission purposes because most children entering Grade 1 are already starting with a blank slate. This is particularly true of New Generation Schools in very rural areas where sparser populations lead to more manageable levels of demand. Thus, admission rates at primary level New Generation Schools were reported to be 82%, much higher than at secondary.

Table 3.2: Test Results among Students Applying for Entry to New Generation Schools for 2022

Name of School	Total Seats Available	Applicants Tested	Total Passing	Total Applications Accepted	Students Accepted as a % Applicants
Secondary Level					
Hun Sen Kg. Cham HS*	--	--	--	--	--
Preah Sisovath HS	547	1,136	434	547	48%
Prek Leap HS	385	495	330	298	60%
Prek Anchanh HS	317	458	253	302	66%
Kok Pring HS	157	183	127	127	69%
H.S Peam Chikorng HS	339	378	312	312	82%
Subtotal	1,745	2,650	1,456	1,586	60%
Primary Level					
Demonstration School	100	177	141	111	63%
Akhea Mahasei PS	200	230	210	200	86%
Angkor Ban PS**	65	65	65	65	100%
Svay Prahut PS**	55	55	55	55	100%
Subtotal	420	527	471	431	82%
GRAND TOTAL	2,165	3,177	1,927	2,017	63%

*Hun Sen Kampong Cham HS has closed external Grade 7 admissions to accommodate children enrolled in the adjacent primary school (Demonstration School); **Admission at Grade 1 at these schools is not subject to an Entrance Exam.

3.3 School Accreditation Results

All schools within the NGS System have now reached a point where they are undergoing regular accreditation visits. That is, all schools have completed a 3-year investment cycle and are now ready to start soliciting support from parents, if their educational standards can be validated through the NGS accreditation process. During 2022, 90% of New Generation Schools were accredited with the accreditation of one primary school declined until additional modifications can be achieved in how the school is organized (see Table 3.3). It goes without saying that decisions to 'decline' accreditation are extremely difficult to make because it reflects poorly on the willingness of school directors to comply with rules and regulations that they knew were required before investment began. It also becomes incumbent on local provincial boards to intervene in such cases to ensure the compliance of school directors, which is a new and strange responsibility for provincial

authorities. But given the key focus on ‘governance’ and ‘accountability’ in the NGS System, it is essential for the Accreditation to make unpopular decisions to maintain the integrity of the NGS System, if it is determined that a school is not in compliance with NGS regulations. The fact that a school was denied accreditation this year is an indication that the system is both working and applying performance criteria with rigor.

Table 3.3: Summary of Accreditation Results in 2022

School	Province	Provisional Score on Achieved Performance Criteria	Accreditation Status	Next Steps
Secondary Schools				
1. Preah Sisovath HS	Phnom Penh	92%	Accredited	Prepare for 2023
2. Prek Leap HS	Phnom Penh	96%	Accredited	Prepare for 2023
3. Hun Sen Kampong Cham HS	Kampong Cham	96%	Accredited	Prepare for 2023
4. Hun Sen Peam Chikong HS	Kampong Cham	75%	Accredited	Prepare for 2023
5. Prek Anchanh HS	Kandal	88%	Accredited	Prepare for 2023
6. Kok Pring HS	Svay Rieng	92%	Accredited	Prepare for 2023
Primary Schools				
7. Anuvat PS	Kampong Cham	86%	Accredited	Prepare for 2023
8. Svay Prahout PS	Svay Rieng	86%	Accredited	Prepare for 2023
9. Akhea Mahasei PS	Kampong Speu	82%	Accredited	Prepare for 2023
10. Angkor Ban PS	Kampong Cham	70%	Declined	Revisit to Review Progress
Schools Accredited	--	9 (90%)	--	--

3.4 Creating an Accreditation Unit within the NGS Structure

Given that all ten New Generation Schools are now applying for accreditation every year and the possibility that additional New Generation Schools supported by other projects⁶ may also require accreditation assessments, the role of the accreditation process has increased both in importance and its need for resourcing. It is with this in mind that the NGS System seeks to upgrade the Accreditation Unit to have its own office and three full-time staff. Part of these costs may be covered by a request to the Franks Family Foundation but these negotiations are still on-going. Office space is the largest challenge facing the creation of an Accreditation Office with no space available on the Sisovath HS campus.



It might, however, be possible to afford a small space to an Accreditation Office at the New Generation Pedagogical Research Center or a new building under construction at Yakunto HS. These housing and financial issues will hopefully be resolved in 2023.

Increasingly Common Accreditation Visits: The NGS Accreditation Team visits Peam Chkong HS in Kampong Cham to review its compliance with operational performance requirements.

⁶ The Science & Technology Project in Upper Secondary Education may support up to 8 New Generation Schools. This project is to be funded by a loan from the Asian Development Bank and will start at the end of 2022.

3.5 Capacity-Building Events during the Reporting Period

A significant number of capacity-building activities occurred in 2022. In this respect, KAPE organized capacity-building events for new teachers as well as refresher training workshops for existing teachers. Teacher strengthening activities took many forms including exposure visits (e.g., to Thailand), face-to-face workshops, and online training events. Training events are joined by school-based mentors so that they are aware of the content of the various workshops occurring during the school year. This enables the NGS System to provide continuous follow-up of the technical input that teachers receive during workshops.

As Covid19 restrictions receded, capacity-building events have trended back to face-to-face formats, which also tend to be more effective. Some of the workshops provided were organized directly by KAPE (e.g., hands-on science training workshops) while others have consisted of collaborations with cooperating organizations such as the HEAD Foundation (STEM training), *Arduino* (an electronics company specializing in Robotics), and *MangoSTEEMS* (a software company that is helping KAPE to integrate robotics, artificial intelligence, and coding into the NGS curricular program). These kinds of workshops demonstrate the value of New Generation Schools as a platform to help MoEYS actually implement 21st Century learning that the Cambodian education system desperately needs. Altogether, 104 days of workshops were organized involving 915 individuals (mostly teachers, mentors, and administrators) during 2022 (see Table 3.4).



Unique Kinds of Capacity-development for Cambodian Teachers: Teachers work with Singaporean educators from the HEAD Foundation to look for problem-based applications of STEM (above); Teachers in a New Generation School review the implementation of experiments to ensure that students are able to engage in hands-on science activities during STEM instruction (below). ↗

Table 3.4: Summary of Capacity Building Workshops and Events (Jan-December 2022)

Name of Workshop or Capacity-building Event	Primary Level	Secondary Level	Online	Face to Face	Number of Participants	Number of Days
1. Arduino and Robotic	x	x	x		38	32
2. Science Workshop for Prek Leap HS		x		x	27	1
3. Science Workshop for Prek Anchan HS		x		x	23	1
4. Science Workshop for Hun Sen Kampong Cham HS		x		x	10	1
5. Science Workshop for Hun Sen Peam Chikorng HS		x		x	18	1
6. Science Workshop for Kourk Pring HS		x		x	11	1
7. Science Workshop for Angkor Ban PS	x			x	26	1
8. Science Workshop for AKak Mohesei PS	x			x	37	1
9. Cambodia Future Oriented STEM Program		x	x	x	28	12
10. Coding Curriculum Consultation Workshop		x		x	31	31
11. Observic Orientation Workshop	x	x		x	243	1
12. Thailand Study Tour		x			145	5
13. Robotify-Learning to Code By Controlling Virtual Robots	x		x		25	1
14. Build Something Different (BSD)		x	x		12	1
15. Newsletter Training	x	x		x	26	2
16. Active Learning Techniques		x		x	80	2
17. NGS Foundation Workshop for New Teacher	x	x		x	135	10
Total	7	14	4	13	915	104

*Implemented in collaboration with the HEAD Foundation; ** New software programs from *MangoSTEM*

3.6 Update on NGS Publications

The NGS Central Office has reported that a total of 26 technical publications to support teacher training, policy development, and research have been completed over the years with six such publications completed in 2022 alone (see Box 2). Several of these publications have been done in collaboration with the Upper Secondary Education – Sector Development Project in which KAPE is also working. KAPE’s involvement in this project is to help mainstream some of the ideas developed in NGS into the Secondary Resource School system.

During the year, NGS Technical Teams also completed a review of all its Club Manuals in both English and Khmer Language. Corrections and improvements have been made in all language versions so that these may now be disseminated through the KAPE and NGS Websites. Altogether, 8 student club manuals are now available in multiple areas of study including Creative Writing, Film, Photography, STEM, Drama, History, and other topics that may be of special interest to students. The clubs are organized primarily as extracurricular activities in which there are elected officers and fixed budgets provided by the school for field trips, projects, printing, and other activities that may require budgetary resources for students. Club activities are often linked with project work that students work on as they try to build academic portfolios that move beyond examinations, since students are realizing that such portfolios are increasingly important for admission to university, particularly foreign universities. This year, NGS students are on track to produce over 1,000 projects, which will be a new record.

In addition to the eight club manuals that were revised/finalized in 2022, the NGS System

has developed numerous technical manuals on various topics including 21st Century Libraries, Student Assessment, School-based Management, Pedagogy, NGS Operational Guidelines, and many others. Not all of these manuals are available in Khmer Language yet, but the NGS team is currently working to ensure that all publications will eventually be available in both English and Khmer Language.



NGS Club Manuals: A total of eight club manuals in various topics ranging from Creative Writing, STEM, and other topics have been finalized in both English and Khmer and can be found on the NGS Website.

BOX 2: NGS Manuals and Publications

Previous Publications

1. School Architecture for a New Century
2. 21st Century Library Manual
3. Constructivist Learning Manual
4. A 21st Century Pedagogy Framework for Cambodia
5. Formative Teacher Support Framework
6. Student Assessment in the Classroom Manual
7. NGS Operational Policy Guidelines
8. New Generation Preschool Model Handbook
9. School-based Management Manual
10. Project Work Manual (being revised)
11. Setting up Creative Writing Clubs (revised)
12. Setting up History Clubs (revised)
13. Setting up English Clubs (revised)
14. Setting up ASEAN Clubs (revised)
15. Setting up Drama Clubs (revised)
16. Setting up Film Clubs (revised)
17. Setting up Photography Clubs (revised)
18. Setting up Earth Science Clubs (revised)
19. Setting up STEM Clubs (revised)

New Publications in 2022

1. M-Learning Guidelines for School Librarians (done in collaboration with USE-SDP2)
2. Principles of Assessing Students and Teachers: A Facilitator’s Training Handbook to Improve Educational Evaluation
3. Student Assessment Policy for New Generation Schools
4. New Generation Schools in Cambodia: The Research Record
5. Progress with Reforming Secondary Education in Cambodia (in *Education in Cambodia: From Year Zero towards International Standards*)
6. New Education Design Framework: Creating Modern Learning Environments for Cambodian Secondary Schools (done in collaboration with USE-SDP2)

CASE STUDY: Project Work Activities of a History Club at Prek Leap HS



The History Club at Prek Leap HS has carried out an amazing series of projects involving the study of ancient Khmer script. Prey Leap HS is a New Generation School with a model learning program that centers around its extracurricular clubs. The History Club, for example, is advised by an amazing young teacher named, Mr. Chouk Sophea. Before joining Prek Leap HS, he had studied with several instructors who are experts in Sanskrit and Pali Language. Working with his students, Sophea helped organize a field trip to the National Museum of Art in Phnom Penh where he introduced his students to the many inscriptions of ancient Khmer writing, explaining how to date the various ‘seila charit’ (steles) there by understanding the evolution of Khmer script over the centuries.



Following the field trip, students were able to replicate a *stela* from Wat Prey Veng using some of the replicative techniques that Mr. Sophea had learned at university. After copying the stela at the temple, students then used local materials to carve the letters of the inscription onto pieces of wood and cloth, creating life like replicas of the ancient stela that they had observed at Wat Prey Veng. The replicated inscriptions enabled students to create multiple historical exhibitions for their library and classroom. This history project greatly enriched students’ understanding of the historical evolution of the Khmer Language and how one can use such information to date temples according to the historical period in which they were built (e.g., Chenla Period, Early and Late Angkorian Period, etc.). This case study is a great example of how subject clubs in New Generation Schools can turn often boring subjects into vibrant learning experiences.

Students visit the National Museum of Art in Phnom Penh during a fieldtrip (top); A student replicates an observed stela using an inkblot technique (middle picture); Another student carves the inscription that he observed onto a piece of wood (bottom left); History Club students display some of the inscriptions that they created based on the actual inscription observed at Wat Prey Veng (bottom right).



3.7 Parental Financing Developments

New Generation Schools continued to strengthen their financial position leading to sustained operation. In preparation for the 2023 school year, all schools have introduced a system of voluntary fees that parents are requested to pay. For many middle-class students returning from the private sector, these fees tend to be a small fraction of what they were paying at private schools and constitutes a win-win situation for these families. Fees range from as low as \$65 per year (in rural areas) to \$270 per year (in more urban areas). Students from poor backgrounds (between 10% and 20% of enrollment) are exempted from paying, thereby ensuring that New Generation Schools are for students from all social backgrounds. Altogether, schools reported collecting approximately \$1,542,000 from parents to cover operating costs of about \$1,920,085 or 80% of the total (see Table 3.5). This has been a huge step towards sustained operation. MoEYS support is now transforming into subsidies to cover the costs incurred from students who are unable to pay any fees.

Achieving sustained operation has been somewhat problematic at more rural schools where parents are largely unable to pay even modest fees. At Angkor Ban PS in Kampong Cham Province, for example, parental support barely covers a quarter of reported operating costs. Similarly, rural secondary schools such as Kok Pring HS in Svay Rieng and Peam Chikong HS in Kampong Cham also reported covering only 49% and 65% of operating costs, respectively. In such areas, MoEYS may need to continue to provide social equity funds for such schools while more urban schools such as Preah Sisovath, Prek Leap, and Prek Anchanh may soon achieve fully sustained operation. These observations should help to better inform the selection of new sites for New Generation School expansion in the future.

Table 3.5: School Operating Costs and Sustained Income, (to be used in 2023)

School Name	Budgetary Support from MoEYS/Child Fund**	Local Support (Est.)	Total Operating Costs	% of Costs Locally Sustained
Secondary Level				
Preah Sisovath HS	\$65,730	\$550,000	\$660,553	83%
Preah Sisovath Annex (Youkunthor)	\$200,000*			
Hun Sen Kg Cham HS	\$149,733	\$85,000	\$172,508	49%
Prek Leap HS	\$101,900	\$270,000	\$314,550	86%
Prek Anchanh HS	\$35,910	\$255,000	\$231,967	110%
Peam Chikong HS	\$187,625	\$150,000	\$229,742	65%
Kok Pring HS	\$95,257	\$30,000	\$61,620	49%
Subtotal	\$836,155	\$1,340,000	\$1,670,940	80%
Primary Level				
Demonstration School	\$35,189**	\$40,000	\$35,000	114%
Akhea Mahasei PS	\$102,953	\$130,000	\$123,553	105%
Angkor Ban PS	\$45,787	\$12,000	\$45,594	26%
Svay Prahut PS	\$29,999**	\$20,000	\$44,998	44%
Subtotal	\$213,928.00	\$202,000	\$249,145	81%
GRAND TOTAL	\$1,050,083	\$1,542,000	\$1,920,085	80%

*Provided directly to Sisovath HS by MoEYS; **Schools temporarily funded under the secondary school budget

3.8 Progress on NGS Building Renovations for 2022

As the funding cycle for most schools reaches a conclusion, investments in infrastructure in most New Generation School sites have been declining, especially in comparison with the early days of the program. In this respect, about 293 facilities have been renovated or built since 2016 including color-coded classrooms, science/ICT labs, libraries, auditoriums, clinics, offices, and meeting rooms (see Table 3.6). All these investments in infrastructure generally depart from traditional modes of design commonly seen in many traditional schools in keeping with the mantra that New Generation Schools should provide a new kind of educational setting that is more in keeping with the needs of the 21st Century (see case study below). When counting the investments made this year, the number of facilities actually exceeds those originally planned by a small margin, reflecting increasing demand from parents and students for NGS services.

In 2022, investments in infrastructure continue to be quite modest with 13 facilities at both primary and secondary school level undergoing repairs (see Table 3.7). As the investment cycle at most schools comes to an end, investments in infrastructure have been declining dramatically since the early years of the program. This year's investments have been focusing mainly on science and ICT labs as well as clinics, auditoriums, and landscaping improvements (see case study below). With the high utilization rates of facilities provided by the program, schools are also being urged to consider renovation of all facilities every three to five years to ensure that they can remain in continuous service.

The largest on-going infrastructure investment underway in 2022 was the completion of the school auditorium at Prek Leap HS, which represents another major investment in the NGS System. With enrollment at the school now exceeding 1,000 students, the school is in desperate need for more modern meeting facilities. With some support from parents, the program was able to complete the construction of this facility in August 2022, though the emplacement of seating is taking somewhat longer than anticipated as these materials need to be ordered from China. The completion of this structure marks the fourth modern auditorium built by the NGS System. Such structures create a modern meeting place for both students and faculty that brings with it state-of-the-art features such as built-in audio-visual equipment, wired settings, and air conditioning (see below).

Table 3.6: Proposed & Completed Facilities in NGS Sites, FY2016 to FY2022

Investment Area	Number Proposed 2016-21	Number Established 2016-22	%
Secondary School Sector (5 schools)			
NGS Classrooms	94	106	112%
Science Labs	41	52	120%
ICT Labs*	13	14	108%
21 st Century Libraries*	5	5	100%
Auditorium	5	4	80%
Office/Meeting/Faculty Rooms	13	18	138%
Canteen*	5	2	40%
Student Clinic*	5	5	100%
Youth Centers*	5	5	100%
Total Facilities	186	211	113%
Primary School Sector (3 schools)			
NGS Classrooms	45	55	122%
Science Labs	0	4	400%
ICT Labs	2	2	100%
21 st Century Libraries	2	2	100%
Office/Meeting/Faculty Rooms	2	4	200%
Auditorium	1	0	0%
Canteen	0	0	0%
Student Clinic	2	2	100%
Youth Centers	0	0	0%
Toilet Facilities	13	13	100%
Total Facilities	67	82	105%
Facilities at All Levels	253	293	104%

*Facilities sometimes shared with Primary Schools



☛ **State-of-the-Art Auditorium at Prek Leap HS:** After over a year of construction, the new auditorium at Prek Leap HS finally opened in 2022. Although not yet fully complete, the facility can now be used for student and school-wide activities and has already seen major events such as the school’s Great Books Reading Contest as well as general meetings of parents to plan for the 2023 school year. The addition of the auditorium marks the crowning achievement in investment at this school and will make it one of the premiere educational facilities in Phnom Penh.

Table 3.7: Summary of On-going Renovations and New Infrastructure Emplacement in 2022

School	Facilities Renovated/Built in 2022										
	Non-science Classrooms	Science Labs	ICT Labs	Offices	Library	Bathroom	Wall painting (m2)	Clinic	Auditorium	Landscape (m2)	Total
1. Preah Sisovath HS											
2. Hun Sen Kampong Cham HS		2									2
3. Prek Leap HS								1			1
4. Prek Anchanh HS								1	1		2
5. Peam Chikong HS							1		1		2
6. Angkor Ban PS		1					1		1		3
7. Akhea Mahasei PS		1			1		1				3
8. Demonstration School (Kg Cham)											
Total	--	4	--	--	1	--	--	3	2	3	13

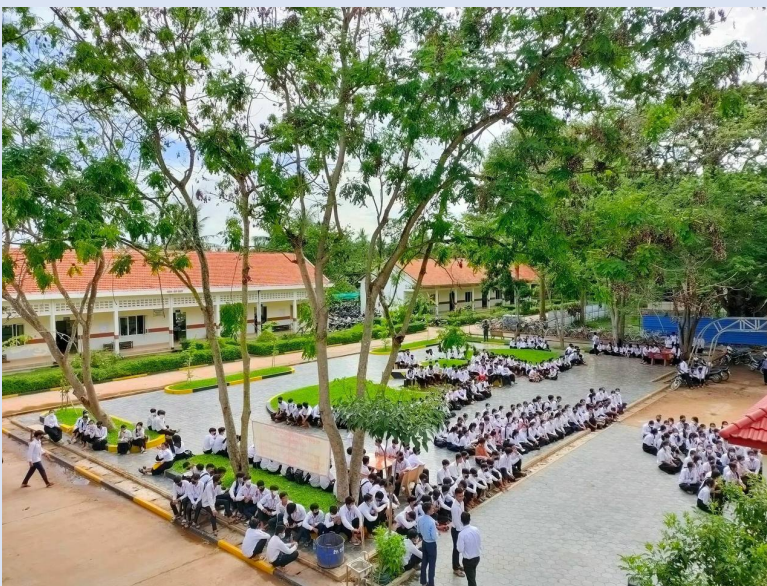
Examples of Investment in Infrastructure and Landscaping in 2022



Library Expansion at Akhea Mahasei PS: A garden extension of the library at Akhea Mahasei should help to double the capacity of this school library. ➔



➤ **Modern Landscaping:** New styles of landscaping at Peam Chikong HS and Hun Sen Kampong Cham HS integrate green spaces and student sitting. These new landscaping styles help to make New Generation School settings neat and attractive for students and the public.



⬆ Peam Chikong HS

Hun Sen Kampong Cham HS ➔



3.9 New Generation School Retreat Meeting with MoEYS

In June 2022, the NGS Office organized a Retreat in Kampong Cham Province that allowed program staff to consult with senior MoEYS officials to review progress and address important issues that challenge future operations. The Retreat was hosted by Hun Sen Kampong Cham HS, which was one of the first New Generation Schools established in Cambodia. This review meeting was the first NGS Retreat that was held since 2017. A summary of the Retreat Program is provided in **Annex 2** of this report. Some of the key issues that were raised during the Retreat are summarized in Box 2. The Retreat was chaired by H.E. Dr. Hang Chuon Naron, Minister of Education who helped to provide support for some key decision-making during the meeting. Many other key MoEYS officials also attended the meeting including members of the National Oversight Board, several department heads, and a representative from the Ministry of Economy & Finance. This was a key meeting for NGS programming because it helped to resolve several key issues regarding future expansion under other donors (e.g., Asian Development Bank), future funding (confirmed for 2023), and a number of other technical issues relating to staffing and accreditation.

NGS Retreat & Review Meeting: H.E. Dr. Hang Chuon Naron, Minister of Education helps to elaborate the MoEYS grand strategy with respect to NGS Reforms going forward. ➔



BOX 2: Challenges Facing New Generation School Programming

- Continuing Grade Coverage Expansion While Budget is Frozen
- Absorbing Teachers into the NGS System Who Have Resisted Collaboration and the Danger of Dilution of NGS Standards (e.g., Prek Leap).
- Phase-out of Child Fund Support to New Generation Schools in Svay Rieng Province
- Impact of Covid19 School Closures on Exam Performance
- Need for Continuing Government Support to Enable Poorer Students to Attend New Generation Schools
- Formalizing the Administrative Structure to Maintain the New Generation School System (esp. Accreditation Office)
- Some School Management Issues as an Obstacle to Accreditation
- Stabilizing Personnel Appointments to New Generation Schools
- NGS Brain Drain

3.10 Evolution of Provincial Governing Boards

As part of the effort to promote sustained operation of the New Generation School System, the NGS Central Office has been working closely with provincial boards to help them more faithfully fulfill their role to promote school oversight and accountability. Each of the five provinces now participating in the NGS System have one oversight board governed by statutes outlined in the NGS Operational Guidelines Framework document (now approved by MoEYS). The Boards have several key responsibilities including scheduling regular Review Meetings (at least twice per year and preferably more), school visits to ensure that schools are ready for accreditation visits, and special meetings to address special problems or issues. Boards may also include in special events including Parent

Night Shows, Exposure Visits, and other important events that relate to school performance. Based on a record of Provincial Board activities during the first semester of 2022, provincial boards organized and participated in 5 review meetings, 7 school spot check visits, and 4 special meetings or events. The average rate of participation among board members in these meetings/events was about 64% (see Table 3.8). These levels of performance are much better than earlier reported and demonstrate increasing engagement in NGS reforms among mid-level managers within the education system.

Table 3.8: Record of Provincial Board Activities, 2022

Board Location	Participating Board Members	Board Activities January-August 2022			
		Review Meeting	Participation in Spot check Visit (Yes/No)	Participation in other meetings or events (Yes/No)	Please specify
Phnom Penh (11 Members)	12/2 (100%)	Yes (1) 22 Feb 2022			--
	7 (64%)		Yes (2) 25-26 August, 2022		<ul style="list-style-type: none"> Visited Preah Sisovath and Prek Leap HS
	9/1 (75%) 6/2 (50%) 12/2 (100%)			Yes (26 May 2022) Yes (25-29 July 2022) Yes (7 June 2022)	<ul style="list-style-type: none"> Meeting to solve teacher opposition at Prek Leap Exposure Visit to Thailand Meeting led by Minister to address teacher opposition at Prek Leap
Kandal (11 Members)	8/1 (73%)	Yes (1) 28 June 2022			--
	7/1 (64%)		Yes (1) 28 June 2022		--
	5/1 (45%)			Yes (25-29 July 2022)	<ul style="list-style-type: none"> Exposure Visit to Thailand
Kampong Cham (11 Members)	5/1 (45%)	Yes (1) 26 May 2022			--
	5/1 (45%) 5/1 (45%)		Yes (1) 26 May 2022 Yes (1) 17 Aug 2022	No	<ul style="list-style-type: none"> Visit to Anuvat PS Visit to Angkor Ban PS
	7/2 (58%)	Yes (1) 27 May 2022			--
Kampong Speu (12 Members)	7/2 (58%)		Yes (1) 27 May 2022	No	--
	5/1 (42%)		Yes (1) 16 August 2022		--
Svay Rieng (8 Members)	8 (100%)	Yes (1) 28 May 2022	No	No	--
Total	64% Average Participation	5 Review Mtgs	7 Spot check Visits	4 Special Meetings or Events	--

3.11 Localization of NGS Programming in Svay Rieng Province

A major change in the management of New Generation Schools occurred in 2022 as schools formerly funded by Child Fund came under the direct oversight of the NGS Central Office. During the six-year period of Child Fund support, KAPE was the contractual implementer chosen by Child Fund to manage both Kok Pring HS and Svay Prahut PS, which are located in the same compound in Svay Chrum District, Svay Rieng. After the completion of six years of funding, Child Fund informed the Ministry that it expected the schools to move to local financing and government support. In spite of the fact that these schools are located in very rural areas, they were still able to raise \$35,000 at the beginning of 2022 for their operations from local sources, mainly parents. KAPE was also able to provide support by providing \$20,000 in internal funds while the Franks Family Foundation made a donation of \$14,000, bringing total funding from all sources up to about \$69,000, which nearly covers the amount of annual funds originally provided by Child

Fund (i.e., \$77,000). These efforts have put the New Generation Schools in Svay Rieng Province on the road to sustained operation. A major breakthrough occurred in the formulation of the proposed budget for 2023 when the Ministry of Economy and Finance agreed to allow MoEYS to include official support for these schools to replace the funding provided by KAPE and FFF.

3.12 Planned Expansion of NGS Programming

Donor Investment: In spite of the budgetary crunch caused by the Covid19 Pandemic, there have been numerous discussions with various donors about the possible expansion of the NGS System. Mainly these discussions have been linked with possible loans from development partners such as the *Asian Development Bank (ADB)* and the *Agence française de développement (AFD)*. While the latter seems to be off the table for the moment due to rapidly increasing debt burdens

within the education system, the ADB loan appears to have been finalized with provisions for support to eight new NGS sites. This would potentially increase the number of New Generation Schools to 18 (if all were accredited). Schools under consideration in this regard are summarized in Box 3. Each of these schools was reviewed by the NGS Accreditation Team along with consultations with all stakeholders to make sure that parents, teachers, and administrators are all on board for such investments. Due to the size of some of these schools and a lack of stakeholder consensus in some areas, it may be necessary to undertake investment using a ‘School in a School’ model so that only part of the school would receive investment. The agreement to include an NGS Component within the upcoming ADB Project is a major breakthrough for MoEYS and will mark the first time a mainstream donor has committed to investing in this educational reform.

BOX 3: Schools under Consideration for Additional NGS Investment through ADB Loans

1. Net Yang HS (Battambang)
2. Hun Sen Skon HS (Kampong Cham)
3. Hun Sen Serei Pheap HS (Kandal)
4. Preah Yukuntor HS (Phnom Penh)
5. Samdech Euv Samdech Me HS (Ratakaniri)
6. Svay Rieng HS (Svay Rieng)
7. Hun Sen Prasaot HS (Svay Rieng)
8. Suang HS (Tbaung Khmum)

Expansion through the Sisovath Annex: As 2022 came to an end, MoEYS also made a major decision to include Yukanthor HS as a new site of NGS investment. The methodology for this expansion is somewhat unorthodox and seeks to get around prohibitions against adding more New Generation Schools to the official budget. NGS programming at Yukanthor HS is considered to be part of an expansion of Preah Sisovath HS into the campus once occupied by E2STEM, which is another experimental reform program being phased out by MoEYS (in 2023). Thus, this NGS expansion is called the *Sisovath Annex* and is not officially under the management of Yukanthor HS administrators, since many teachers at the normal school tend to be anti-education reform in sentiment. For this reason, MoEYS has decided to entrust management of this expansion to known advocates of NGS reforms recruited from Preah Sisovath HS, one of the most successful sites of New Generation School operation. Funding for the annex complex will be generated by residual funds left over from E2STEM as well as parental donations made to the school. These developments mean that the number of New Generation Schools has at least nominally reached 11 schools.

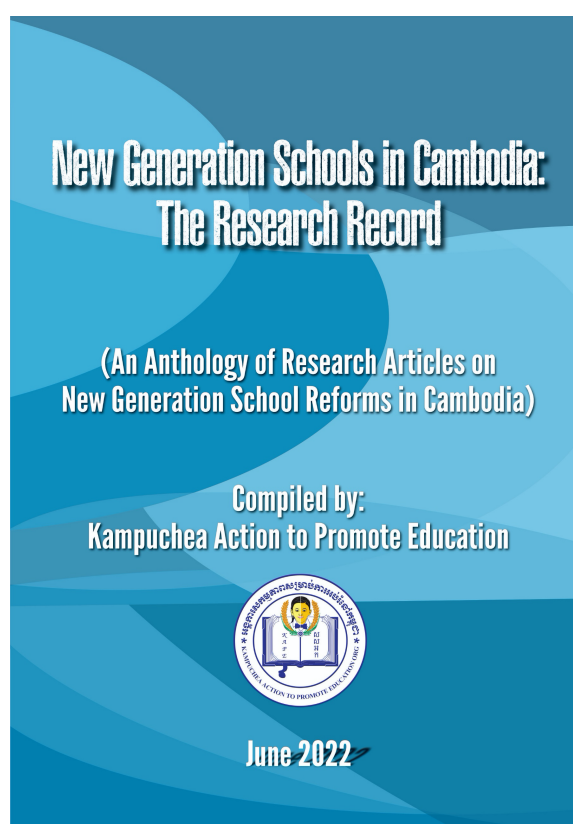
Private Sector Interest: KAPE has also received several inquiries of a more informal nature about extended investment in New Generation Schools from the private sector. A number of wealthy entrepreneurs contacted KAPE in 2022 about the possible process of NGS emplacement using private funds. As this would be the first instance of private sector

investment in New Generation Schools, there are few precedents to guide how investment would be structured or whether the site of investment would be a private or public school. KAPE has strongly suggested that the school be either fully or semi-public in order to access salaried teachers from the public sector, which would make the school more sustainable. At the present time, these discussions with the private sector are only exploratory, but nevertheless look highly promising.

Re-allocating Residual Funds within the Official NGS Budget: A final potent source of possible NGS expansion in 2024 will be the savings generated by the NGS program as a result of parental contributions to cover recurrent costs. KAPE estimates that there may be between \$300,000 to \$400,000 in residual funds in the 2024 budget that could be used to increase investment in additional sites. Up to three New Generation Schools could be supported with these funds. KAPE will alert MoEYS to this possibility in 2023 so that the matter can be discussed with the Ministry of Economy and Finance.

3.13 Empirical Research on New Generation School Programming

A number of new research publications came out during the reporting period that provide more empirical evidence about the success of New Generation School Reforms. One publication was printed by Springer Press and is entitled, *Education in Cambodia: From Year Zero to International Standards*. This publication provides several positive references to NGS Reforms as well as a detailed description of its effectiveness. Another recent publication on empirical studies of New Generation Schools is a compilation of over ten research articles on NGS programming that have appeared in multiple other publications over the last five years. This is the first time that all of these research articles on NGS Reforms have been brought together under one publication. This publication was edited, printed, and disseminated by KAPE through its regular media channels (e.g., websites, Facebook Pages, etc.). All of these articles further help to bolster empirical arguments for additional investment in this reform model.



3.14 Number of International and National Awards Received by NGS Students

One of the key metrics that the NGS Central Office tracks to demonstrate the impact of investments on students' learning relates to the number of awards and medals received by NGS students at all levels, both primary and secondary. Some of the contests entered by students are international while many others occur at the national level. The ability of students to enter these contests often depends on the advocacy of the school's managers to raise awareness of these opportunities and facilitate students' participation. In many cases, schools must fund the purchase of materials for projects or travel costs when students must travel to locations outside of the school or even to foreign countries. In one case, NGS students from Preah Sisovath HS had to travel as far as Yale University in New

Haven CT (USA) to participate in an international debate contest in which they received 2nd Prize. Such honors are truly amazing and bring significant pride in what public school students are able to achieve. Before NGS, it was rare for Cambodian students from the public sector to ever participate in such events.

Based on reports received from 8 schools, 1,036 students received a total of 1,305 prizes, awards, and medals (gold, silver, and bronze) (see Table 3.9). This compares with 723 students receiving 750 awards in 2021. This is, therefore, a new record set by the NGS System and is another measure of the education system’s recovery from Covid19 shutdowns when there were significant constraints on travel and large gatherings.

Schools receiving the most awards included Peam Chikong HS with 347 students and Prek Leap with 339 students, which comprised about one-third of the student body in each school. Sisovath HS generated the most Gold Medals with 104 such medals received. Altogether, 14% of students of students enrolled in the NGS System received special recognition in 2022.



NGS Honors: A team of NGS students from Preah Sisovath HS attended a STEM contest in Korea and brought back awards and medals for the projects. An environment of student empowerment and advocacy greatly helps to promote this high achievement among public

Table 3.9: Number of International and National Awards in New Generation Schools, 2022

School Name	Total School Enrollment	Students and Awards	General Awards	Certificates of Achievement	Gold Medal	Silver Medal	Bronze Medal	Total	Awarded Students as % of Enrollment
Secondary Schools									
Preah Sisovath HS	1,156	Number of Students	8	43	55	73	47	226	20%
		Number of Awards	17	72	104	112	66	371	
Hun Sen Kam-pong Cham HS	509	Number of Students	2	14	10	1	1	28	6%
		Number of Awards	2	17	15	1	1	36	
Prek Leap HS	1,168	Number of Students	0	305	6	7	21	339	29%
		Number of Awards	0	360	8	11	24	403	
Prek Anchanh HS	1,175	Number of Students	0	16	2	2	2	22	2%
		Number of Awards	0	20	2	2	2	26	
Peam Chikong HS	1,047	Number of Students	2	198	25	21	101	347	33%
		Number of Awards	2	215	28	24	118	387	
Kok Pring HS	479	Number of Students	0	1	1	3	20	25	5%
		Number of Awards	0	1	1	3	26	31	
Primary Schools									
Demonstration PS	470	Number of Students	0	10	2	6	4	22	5%
		Number of Awards	0	10	2	6	4	22	
Akkamohesei PS	1,256	Number of Students	0	9	1	7	10	27	2%
		Number of Awards	0	11	1	7	10	29	
Total	7,260	Number of Students	12	596	102	120	206	1,036	14%
		Number of Awards	21	706	161	166	251	1,305	

3.15 Project Work Fairs

Project Work learning is one of the key learning methodologies promoted in the NGS System and is one of the best exemplars of the program’s philosophy of Constructivism. Under a Constructivist regime, students are empowered to create their own ‘knowledge products’ through a process of research, creative applications of knowledge, and collaborative learning. Project Work activities enable students to create projects based on their own interests and extracurricular research. The learning eco-system created at a New Generation School very much facilitates project work activities through the wired learning environment, modern libraries with workstations, bulletin boards in classrooms, student club networks, training of teachers, and parental engagement. Schools actively fund special projects chosen by students culminating in a school-wide Project Fair that is attended by both parents and important dignitaries from local government and MoEYS. The projects not only build students’ creativity and confidence but also demonstrate to parents the high level of learning that their children are achieving. Project Fairs were discontinued during the pandemic due to restrictions on large gatherings but returned to schools in 2022 in a big way with nearly all schools organizing such events. Secondary school students created 1,450 projects while primary schools created 342 projects for a grand total of 1,792 projects for the year, smashing pre-pandemic record of 490 projects (see Table 3.10).

Table 3.10: Number of Student Projects Completed across All Schools, 2022

School	Province	Number of Student Projects
Secondary Level		
Preah Sisovath HS	Phnom Penh	536
Prek Leap HS		292
Prek Anchanh HS	Kandal	218
Hun Sen Kg Cham HS	Kampong Cham	121
Peam Chikong HS		178
Kok Pring HS	Svay Rieng	105
Subtotal		1,450
Primary Level		
Demonstration School	Kampong Cham	53
Angkor Ban PS		0
Svay Prahut PS	Svay Rieng	48
Akhea Mahasei PS	Kampong Speu	241
Subtotal		342
GRAND TOTAL		1,792



➤ **Opportunities for Creativity:** Students take pride in the projects that they make for the School Project Fair. The completion of project work provides applied opportunities for research, collaboration, and creative thinking.

NGS Secondary School Level

3.16 Bac II Examination Results for 2022

As noted earlier, the number of New Generation Schools participating in the Bac II Examination in 2022 increased dramatically from two to five schools in comparison to previous years. This occurred as the incremental grade expansion at several schools finally reached Grade 12, the final grade in the cycle.⁷ In all, 591 students sat for the Bac II Examination across all participating New Generation Schools, compared to only 268 students in 2021 (see Table 3.11). The overall pass rate for all schools was 82% compared to the national rate, which was 72%. It should be noted, however, that the national rate combines students taking both the natural science and social science parts of the exam whereas NGS students all took the natural science examination. When comparing the NGS pass rate with the national natural science exam average, the difference was 82% versus 69%, an even better outcome.⁸ In addition, NGS students comprising exam scores of A, B, and C was equal to 43% of the total sitting for the exam versus only 22% nationally or a difference of 95%. In terms of A scores, NGS students also outperformed the national average by an amazing 451%. These results demonstrate major differences in performance in comparison to normal schools without high governance standards, thereby helping to justify the high investment in the New Generation School System by MoEYS.

Table 3.11: Bac II Examination Results for All Schools, 2022

School Name	Students Sitting for Bac II Exam (Science Stream Only)	A	B	C	D	E	Total Passed	%	Total Failed	%
Preah Sisovath HS	217	19	63	45	42	21	190	87.6%	27	12.5%
OHS Kg Cham HS	57	4	5	14	14	10	47	82.5%	10	17.6%
Prek Leap HS	144	1	10	35	38	35	119	82.6%	25	17.4%
Prek Anchanh HS	128	3	8	27	27	26	91	71.1%	37	28.9%
Kok Pring HS	45	0	2	17	16	5	40	88.9%	5	11.1%
Total	591	27	88	138	137	97	487	82.4%	104	17.6%
%	--	4.6%	14.9%	23.3%	23.2%	16.4%	--			
		42.81%			39.59%					
	(Both Natural and Social Science Streams)									
National Level	125,735	1,049	7,232	19,053	31,166	32,450	90,950	72.3% (69.3%)*	34,785	27.7%
%	--	0.83%	5.8%	15.2%	24.8%	24.8%	--			
		21.7%			49.6%					

*69.3% is the national pass rate for those students in the Natural Science Stream.

3.17 Student Transition to University and Post-Secondary Studies

Another very important metric for New Generation School performance relates to tracking the students who complete the secondary school cycle and transition into a post-secondary environment. The program's hope is that the high-quality human resources produced by MoEYS' investment will transition to tertiary studies. These hopes are largely being realized with a reported transition rate of 84% of all students finishing Grade 12

⁷ When investment begins at a New Generation School, it usually does not involve the entire school all at once. Rather, investment begins in Grades 7 and 8 and expands to a new grade each year. Thus, it takes four years to cover the whole school. This process helps the school to adapt itself gradually to the new requirements of NGS programming and especially for the phase-out of 'rien kua' practices.

⁸ Based on data received from the Department of Examinations.

(see Table 3.12). Another 3% of students decided to enter the workforce while 13% of students could not be tracked by schools for various reasons (e.g., moved away, transferred to another school, no telephone, etc.). Hun Sen Kampong Cham HS and Preah Sisovath HS evinced the highest rates of university transition at 93% and 91%, respectively. In addition, the number of students of graduates receiving scholarships for university was also very high with 32% of students reporting that they had received some sort of scholarship for either domestic or international study. In this respect, Preah Sisovath HS reported the most scholarships with more than half (56%) reporting that they had received some sort of scholarship package.

Table 3.12: Student Transition Rates to University and Post-secondary Studies

School Name	Students in Grade 12	Passed Bac II	Transit to University		Entering Job Market or Undecided		Tracking Data Unavailable	Students Receiving Scholarships			
			Number	%	Number	%		In-Country	Out-of-Country	Total	%
Hun Sen Kg.Cham HS	57	46	53	93%	2	4%	3%	15	0	15	28%
Preah Sisovath HS	217	190	198	91%	0	0%	9%	97	14	111	56%
Prek Leap HS	144	119	121	84%	0	0%	16%	18	0	18	15%
Kourk Pring HS	45	40	34	76%	9	20%	4%	14	0	14	41%
Prek Anchanh HS	128	92	92	72%	7	5%	23%	3	0	3	3%
Total	591	487	498	84%	18	3%	13%	147	14	161	32%

3.18 Critical Thinking Testing Results

The administration of Critical Thinking Tests is an important element of NGS’ monitoring program to generate information on students’ acquisition of generic critical thinking skills. These tests are not curriculum-specific and look at various elements of critical thinking, as it is defined in the psychometric literature (see list of test batteries below). These tests are administered as low-stakes assessments whose results have no bearing on promotion or repetition decisions.

The program re-organized its Critical Thinking Test activities in 2019 by developing a Post-test to follow-up baseline testing that was done in the earlier stages of NGS programming. The new Post-Test maintains the essential elements of the Baseline test, which has seven sections:

1. Figural Series (Prediction)
2. Logical Sequences (Logical thinking)
3. Classification Exercises (Classifying skills)
4. Analogic Thinking
5. Concept Analysis (Applying abstract concepts)
6. Relational Analysis
7. Textual Analysis (Identifying relevant facts)

An example of one of the sections on the test is provided in the inset on the next page.

With the large increase in schools admitted into the NGS program, program planners also organized a clear road map of cohort testing that will facilitate follow-up of Baseline Tests (see **Annex 3**). Each cohort is tested at the end of a three-year cycle; this means that cohorts tested at Grade 7 will be re-tested when they complete Grade 9, while cohorts tested



↑ **Critical Thinking Tests:** The NGS Central Office administered Critical Thinking Tests electronically to increase reliability and accuracy in test tabulation. These tests are non-curriculum specific and help to improve our understanding of how well students are acquiring higher-order thinking skills.

at Grade 10 will be retested at the end of Grade 12. The closure of schools during the Covid19 Pandemic disrupted the testing schedule but with a return to normal in 2022, Critical Thinking Tests are now back on schedule. The NGS Central Office can now report on Post-Test Results for cohorts tested earlier in the program at all schools. A new innovation in Critical Thinking Assessment that occurred in 2019 was the conversion of such tests to an electronic template so that all questions could be administered electronically. The results of all testing activities are presented in Table 3.13.

During 2022, Critical Thinking Post-tests were administered to Cohort 4, which is now in Grade 9. A total of 5 schools participated in the test administration. Students demonstrated performance that exceeded baseline scores in five out of the seven test batteries. Critical Thinking skills where students showed regression included Classification and Conceptual Analysis skills. The latter score in particular showed a dramatic drop from baseline, which affected the total mean score across all test components. The Post-test mean score over all batteries was still higher than baseline and the difference was statistically significant ($p=.05$). Indeed, students demonstrated progress in improving their acquisition of such critical thinking skills as Prediction, Logical Sequencing, Analogic Thinking, Relational Analysis, and Textual Analysis.

Inquiry-based Learning Survey

SECTION 5: Concept Analysis – Fact and Opinion (12 points)

Directions: The questions below require you to be able to distinguish between a *fact* and an *opinion*. The text below is a discussion about how men and women differ. For each underlined sentence in the text, there is an empty box immediately afterwards. Write the letter “F” if you think the statement is a fact or “O” if you think the statement is an opinion. To help you make your analysis, a definition of a fact and opinion is given below. An example is done for you in the text below.


Definition of Terms:
Fact: the characteristic of being true or actual; something that exists or actually occurred.
Opinion: a belief that may vary from person to person.

How do Men and Women Differ

Many social scientists have struggled with the question about how men and women differ. 1. F For example, it is clear that men are more aggressive than women who are mostly passive. 2. In addition, men are always stronger than women in both a physical and mental sense. 3. Of course, many disagree strongly with this view. Biologists only agree that the main way that men and women differ is that women can have children but men cannot.

4. Most everyone agrees with this observation. There is also wide agreement that women should have the right to vote. In many countries, women only recently received the right to vote in the last 100 years or so. 5. Of course, men have stronger views about politics than women do. 6. And it is certainly more important that more men should vote than women. 7.

But it is certain that people will continue to have different views about how men and women differ for many years to come.



13

← **An Example of an Exercise from the Critical Thinking Test:** One of the sections on the administered test was in ‘Concept Analysis’ in which students were asked to determine whether a statement that they read was a ‘fact’ or an ‘opinion’ based on a simple definition of each concept. While such tasks may seem simple, the resulting mean score of only 45% among Grade 7 students across all tested schools suggests that many students starting their secondary education studies still lack such basic critical thinking skills. These analysis exercises required students to put aside their own views about gender differences and apply standardized definitions of fact and opinion to classify each statement that they read in a text accordingly. An example of the text is provided in the excerpt provided at the right.

Table 3.13: Critical Thinking Test Results, 2022

Grade7/9	Figural Series (Prediction)				Logical Sequences				Classification				Analogic Thinking				Concept Analysis				Relational Analysis				Textual Analysis				Total Mean Score For all Sections							
	Cohort				Cohort				Cohort				Cohort				Cohort				Cohort				Cohort											
Sisovath	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7
Baseline	79%	73%	70%	70%	47%	60%	67%	54%	63%	64%	62%	51%	65%	63%	64%	48%	51%	47%	49%	48%	55%	55%	49%	49%	47%	48%	35%	33%	62%	59%	58%	49%				
Post-Test	80%	--	--	--	50%	--	--	--	57%	--	--	--	60%	--	--	--	42%	--	--	--	72%	--	--	--	55%	--	--	--	57%	--	--	--				
Change	1%	--	--	--	3%	--	--	--	-6%	--	--	--	5%	--	--	--	-9%	--	--	--	17%	--	--	--	8%	--	--	--	-5%	--	--	--				
Prek Leap	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5				
Baseline	57%	49%	57%	56%	41%	51%	54%	52%	54%	52%	50%	44%	50%	53%	51%	42%	52%	46%	47%	47%	32%	34%	34%	37%	29%	46%	19%	22%	47%	47%	46%	43%				
Post-Test	69%	--	--	--	54%	--	--	--	53%	--	--	--	56%	--	--	--	32%	--	--	--	58%	--	--	--	44%	--	--	--	51%	--	--	--				
Change	12%	--	--	--	7%	--	--	--	-1%	--	--	--	6%	--	--	--	-20%	--	--	--	26%	--	--	--	15%	--	--	--	4%	--	--	--				
Prek An-chanh	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5				
Baseline	52%	54%	56%	50%	43%	51%	55%	52%	56%	54%	49%	42%	52%	53%	54%	42%	52%	48%	49%	48%	32%	44%	33%	32%	35%	50%	17%	22%	48%	51%	47%	42%				
Post-Test	63%	--	--	--	49%	--	--	--	51%	--	--	--	54%	--	--	--	29%	--	--	--	59%	--	--	--	46%	--	--	--	49%	--	--	--				
Change	11%	--	--	--	6%	--	--	--	-5%	--	--	--	2%	--	--	--	-23%	--	--	--	27%	--	--	--	11%	--	--	--	1%	--	--	--				
Peam Chikong	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5	2	3	4	5				
Baseline	52%	47%	59%	57%	40%	47%	56%	51%	49%	50%	48%	44%	54%	52%	55%	44%	45%	48%	46%	45%	31%	29%	35%	33%	27%	44%	21%	24%	45%	45%	47%	43%				
Post-Test	59%	--	--	--	47%	--	--	--	50%	--	--	--	53%	--	--	--	34%	--	--	--	52%	--	--	--	44%	--	--	--	48%	--	--	--				
Change	7%	--	--	--	7%	--	--	--	1%	--	--	--	-1%	--	--	--	11%	--	--	--	21%	--	--	--	17%	--	--	--	3%	--	--	--				
Hun Sen Kg Cham	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7				
Baseline	63%	60%	68%	66%	41%	55%	62%	55%	56%	59%	56%	48%	55%	59%	54%	46%	49%	44%	49%	45%	37%	40%	33%	44%	38%	59%	17%	27%	50%	54%	47%	47%				
Post-Test	71%	--	--	--	52%	--	--	--	54%	--	--	--	60%	--	--	--	32%	--	--	--	58%	--	--	--	48%	--	--	--	53%	--	--	--				
Change	8%	--	--	--	3%	--	--	--	-2%	--	--	--	5%	--	--	--	-17%	--	--	--	21%	--	--	--	10%	--	--	--	3%	--	--	--				
Kok Pring	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7	4	5	6	7				
Baseline	--	--	54%	46%	--	--	57%	51%	--	--	49%	42%	--	--	53%	38%	--	--	43%	46%	--	--	35%	36%	--	--	15%	11%	--	--	46%	39%				
Post-Test	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
Change	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
Mean (Baseline)	61%	57%	61%	58%	42%	53%	59%	53%	56%	56%	52%	45%	55%	56%	55%	43%	50%	47%	47%	47%	37%	40%	37%	39%	35%	49%	21%	23%	50%	51%	49%	44%				
Mean (Post-test)	68%	--	--	--	50%	--	--	--	53%	--	--	--	57%	--	--	--	34%	--	--	--	60%	--	--	--	47%	--	--	--	52%	--	--	--				
Change	↑				↑				↓				↑				↓				↑				↑				↑							

N=782

3.19 Increasing Access to Preah Sisovath HS through Online Plus

Due to the severe shortage of space at Preah Sisovath HS along with the high demand from outside students to study there, the New Generation School administration there set up an online study program to accommodate some of the high demand. This program is known as *Online Plus*. As noted in Section 3.2, Preah Sisovath New Generation School was only able to accommodate 48% of the students who applied for entry in 2022. This comes out to 589 rejected candidates. This year, the *Online Plus* Program was able to accommodate 193 students from among this number or about one-third (see Box 4). These students study for about six to seven hours per day in an online format. The annual fee for *Online Plus* is high (\$600) but is used to compensate teachers who engage in overtime teaching for the online program. This compares to \$270/year for the regular New Generation School Program. The New Generation School administration at Preah Sisovath is now working with MoEYS to transition the *Online Plus* component of the school into the Sisovath Annex facilities that will be opened at Yukanthor HS in early 2023 (see Section 3.12).

BOX 4: Background on Preah Sisovath's *Online Plus* Program

Regular NGS Program Enrollment:	1,156 (F:570)
Online Plus Enrollment:	193 (F: 93)
Online Plus Grade Coverage:	Grades 7-10
Teachers Engaged in Online Plus:	55
Online Plus School Fees:	\$600/year
Online Plus Hours of Instruction:	7-11 AM 4-7 PM

3.20 New Collaborations, Partnerships, & Networking

The New Generation School System continues to reach out to new partners that will increase the relevance and quality of NGS programming. Along with a long list of other partners that continue to work with the NGS System such as the Franks Family Foundation, X-Learning Systems, Cameo Education, Coding.org, InSTEDD Laboratories, and others, a number of new partners have also joined formal collaborations with KAPE and the NGS Central Office to further improve programming in New Generation School settings. Some of these new partners are listed in Box 5. Many of the new partnerships focus on improving ICT learning and STEM. This may involve the introduction of cutting-edge software in artificial intelligence such as in the case of MangoSTEEMS, curriculum development (as in the case of Meta), teacher training (as in the case of HEAD Foundation) or expanding NGS in new directions. This includes a recent initiative to add a new operation to Preah Sisovath HS in which students would be able to study Food Processing intensively using a specialized curriculum developed for the purpose as part of a collaboration between Shift360 and Canada-based Niagara College. The most recent initiative began in November 2022 and will lead to the opening of a Gaming Technology Center at Preah Sisovath HS. This center will introduce students to the most recent innovations in Gaming Technology, which is one of the fastest

BOX 5: Summary of New Partnerships in 2022

- **MangoSTEEMS:** Software Company specializing in Robotics, Coding, and Artificial Intelligence Software.
- **Shift360:** A technical foundation specializing in Food Processing that is looking to partner with KAPE in setting up a Food Processing Study Center at Sisovath HS.
- **Meta-Facebook:** The well-known social media giant has provided a grant of \$40K to KAPE to help systematize the ICT curriculum used in NGS.
- **HEAD Foundation:** A Singapore-based foundation that is providing specialized training in STEM to NGS Science teachers in collaboration with NGPRC.
- **Arduino:** A local electronics company that provides training and equipment to New Generation School students to learn about electronics and coding.
- **Aptessence:** A Canadian company based in Toronto is working with KAPE to set up a Gaming Technology Center at Preah Sisovath HS that will provide specialized training in the development of gaming products.

growing industries in the world. The New Generation School Office is organizing this initiative in collaboration with a Canadian tech company called Apptessence.

The Food Processing initiative has so far received strong support from H.E. Dr. Hang Chuon Naron, Minister of Education, Youth, and Sport, who has allowed the program to use the new facility built by the Prime Minister at Yukanthor HS to house the new program. A draft proposal outline envisions this new program starting some time at the end of 2023 or early 2024.



3.21 Extra-Curricular Activities & Student Clubs

↑ **Increasing the Relevance of Education:** Young girls in the Electronics Club at Hun Sen Kampong Cham HS learn about the interface between coding and electronic devices.

As New Generation Schools become more mature, they are becoming increasingly sophisticated and skilled in promoting the profusion of student clubs. Students in New Generation Schools tend to be highly motivated, forward thinking, and self-directed. They jump at opportunities to join clubs in topics that interest them and one student may be a member of multiple clubs in different areas. Although the NGS Central Office has already documented eight club manuals, schools are racing ahead in the development of new clubs in a multitude of different areas. Already, New Generation Schools at secondary school level have reported club activities in over 27 technical areas, using the framework promoted in the eight foundational manuals described earlier (see Table 3.13).

In keeping with a philosophy of encouraging autonomous school operation, readers can see from the table below that schools differ markedly from one another in terms of the club topics that they support. In addition, schools set aside discrete budgets to



↑ **Creative Writing Products:** The Creative Writing Club at Prek Leap HS displays some of the books written and published by students.

support club operations for stationery, printing costs, project materials, field trips and other materials that a club might require. In general, schools provide between \$150 and \$200 per year per club. Many clubs have been able to interject an element of entrepreneurship into their activities to generate funds by selling some of the products that they create. For example, the Creative Writing Clubs print and sell books that club members write while science clubs sell processed food, candles, and other products that they manufacture using various scientific principles that they learn while at school. Such activities introduce an element of ownership into being a club member as well as better understanding of the value of entrepreneurship. Club activities generally culminate during Parent Day Exhibitions where club members can exhibit their club projects for their friends and parents to see. Such events demonstrate the merit and effectiveness of the club culture that has grown up in New Generation School settings. When parents see how well their children are learning in NGS settings, it further strengthens their resolve to support the school financially, as well. Altogether, clubs across all secondary schools in the NGS System reported having 5,731 members (see Table 3.14).

Table 3.14: Scope of Extracurricular and Club Activities at Secondary School Level, 2022

Clubs Activity	Preah Sisowath HS	Prek Leap HS	Hun Sen Kg Cham HS	Peam Chikong HS	Prek Anchanh HS	Kok Pring HS	Total
1. History Club	80	72	28	28	--	14	222
2. Drama Club	--	--	--	--	--	--	--
3. Film Club	--	--	--	16	8	--	24
4. Photography Club	--	--	--	--	--	--	--
5. Creative Writing Club	24	50	9	10	23	14	130
6. English Club	--	57	13	7	--	--	77
7. ASEAN Club	4	19	10	--	--	--	33
8. Earth Science Club	63	22	--	12	--	16	113
9. Debate Club	15	--	--	--	--	16	31
10. Science Clubs (Physics-Chemistry Biology)	1030	377	58	17	192	33	1,704
11. Newsletter Clubs	--	31	--	18	9	--	58
12. Public Speaking	41	--	--	--	--	--	41
13. Great Books Program	56	31	506	25	94	34	746
14. ICT Clubs	7	--	49	--	--	--	56
15. Electronic/Robotics	213	14	33	13	9	12	294
16. Entrepreneur Club	--	11	--	--	--	--	11
17. X-Reading/Cam-Reading	1309	70	62	74	63	--	1,578
18. Media Club	19	--	--	--	--	--	19
19. Math Club	258	--	--	--	--	--	258
20. Economics Club	86	--	--	--	--	--	86
21. Website Club	42	--	--	--	--	--	42
22. Geography Club	72	--	--	--	--	--	72
23. Social Research club	74	--	--	--	--	--	74
24. Art club	92	--	--	--	--	--	92
25. Cooking Club	32	--	--	--	--	--	32
26. Sports Club	32	--	--	--	--	--	32
27. Poetry Club	152	--	--	--	--	--	152
Total	3,701	754	768	220	398	139	5,731



Constructivist Learning and the Construction of New Knowledge: The advertisement above was made by the Mathematics Club at Preah Sisovath HS. The Math Club at the school has produced a large number of texts in different fields of mathematics, which the club has researched, documented, and published for sale to the public. Such activities demonstrate the effectiveness of Constructivist Learning techniques in which students can create ‘new’ knowledge based on their own research.

3.22 Great Books Reading Program Results

The Great Books Reading Program is modelled on programming in other countries where students are encouraged to greatly expand the number of books they read each year. This refers especially classic works of literature as well as best sellers. Reading books helps to keep students well-informed and expands their horizons about different points of view on many topics. Sometimes, the Great Books Program is linked with Public Speaking Clubs where students report on the books they read in a public forum. The availability of state-of-the-art libraries very much helps to facilitate this program. Based on reports from five secondary schools that are implementing this program, 439 students participated



↑ **Great Books Award Ceremony at Prek Leap HS:** Students at Prek Leap HS make presentations about the books that they read to a panel of judges and students. Presenters must explain why they read the books they did and what was compelling about what they read. The Awards Ceremony was held for the first time in the new Auditorium recently completed at the school.

in Great Books programming this year, reading about 4,005 books altogether or about nine books per student (see Table 3.15). The Great Books Program started as a pilot at Sisovath HS in 2016 and has now spread to five secondary schools. Hun Sen Kampong Cham HS introduced the program for the first time this year and achieved the greatest participation with students reading over 3,000 books. Other schools such as Prek Leap HS have turned the events into school-wide competitions with a number of awards provided by the school to incentivize student participation. NGS programmers are very happy to see that the program has been adopted so widely with each school doing something different.

Table 3.15: Student Participation in Great Books Programming, 2022

School Name	Participating Grade Levels	Participating Students	Number of Books Read	Books Read per Student
Preah Sisovath HS	7,8,9,10	13	137	10
Hun Sen Kg Cham HS	7,8,9,10,11	291	3,201	11
Prek Leap HS	7,8,9,10,11,12	45	271	6
Prek Anchanh HS	7,8,10,11	25	125	5
Peam Chikong HS	7,8,9,10,11	65	271	4
Kok Pring HS	--	0	0	--
Total	7,8,9,10,11	439	4,005	9



Book Fair at Prek Leap HS: Prek Leap HS went all out in 2022 to organize their Book Fair activities as a school-wide event. The hope is that this will help to raise the profile of the program and ensure that more students volunteer to join next year.

3.23 Overview of Career Counseling Services

Counseling services are an important feature of the overall learning experience at a New Generation School. Each school has one full-time Counselor with a private office to facilitate private meetings with students. Unlike normal public schools, Counselors are not required to teach and can devote their full attention to working with students to plan their careers and help the address challenges. Each school designs its counseling services and creates advertisements to help inform students that the door of the counseling office is always open. Counseling services may take the form of individualized counseling

appointments, especially for those students who are identified to be at risk or small workshops that are generic in nature and intended for all students. Sometimes, Counselors organize special workshops on issues such as depression and how adolescents can cope with such feelings. Counselors do research on such topics, identify resource persons to visit the school, and conduct outreach to students to avail themselves of these services. NGS Counselors are also networked so that they can help and support each other use their Professional Learning Community to improve the services that the school provides. In 2022, Counselors reported that they had identified 209 students at risk and had provided individualized counseling to 777 students and workshops that had benefited 3,161 students (see Table 3.16).

Table 3.16: Overview of Counseling Activities across NGS Secondary Schools, 2022

School Name	Counselors	Students Surveyed		Students Identified as at Risk		% at Risk		Students Counseled (across all grades)		%		Students Attending Counseling Workshops
		T	F	T	F	T	F	T	F	T	F	
Preah Sisovath HS	1	144	67	60	18	42%	13%	122	59	10%	5%	789
Hun Sen Kg Cham HS	1	111	58	2	2	2%	2%	68	30	13%	6%	202
Prek Anchanh HS	1	201	105	29	17	5%	2%	117	67	10%	6%	997
Prek Leap HS	1	262	131	14	5	14%	8%	197	88	17%	8%	786
Peam Chikong HS	1	221	113	88	30	40%	14%	153	58	15%	6%	336
Kok Pring HS	1	111	54	16	6	14%	5%	120	64	25%	13%	51
Total	6	1050	528	209	78	20%	7%	777	366	14%	7%	3,161

*Note: Student surveys focus on students entering New Generation Schools at Grade 7 for the 2022 academic year.

3.24 Implementing Cambodia Mobile School Governance Software

The implementation school management software continues to go well in all schools. The software platform being used in this respect refers to *Cambodia Mobile*, a sophisticated school management platform that appears to offer the most comprehensive set of technical features for improved school management. These features are summarized in Box 6.

The adoption of this software platform occurred at the end of 2021 and has steadily been gaining speed as schools become more proficient in its use. Most schools are using the basic package of this software package (\$6/student) while two schools (Preah Sisovath HS and Prek Leap HS) are using the highest service level of the software (\$12/student) that also includes a Learning Management System (LMS – see Box 7). Although schools are currently using the management platform, the NGS Office has withheld full payment to Cambodia Mobile pending the completion of the de-bugging process, which seeks to address several flaws in the overall operation of the software. These minor problems will hopefully be sorted out by the end of the school year. A demo of how the software works can be found at the following link: <https://www.youtube.com/embed/xSlrBjnbvdl?autoplay=1>

BOX 6: Technical Features of the Cambodia Mobile School Management Software

1. Centralized students, parents, and teacher's database
2. Timetable and Class Roster
3. Digital Student Portal
4. NFC Based Attendance Recording
5. Attendance System for students and staffs
6. Grading System
7. Online Assessment
8. Online Classroom for blended learning
9. Digital Library
10. Reports and Statistics

BOX 7: What Is a Learning Management System?

A learning management system is a software application for the administration, documentation, tracking, reporting, automation, and delivery of educational courses, training programs, or learning development programs. The learning management system concept emerged directly from e-learning.

3.25 On-going Investments in the Canteen at Preah Sisovath HS

Preah Sisovath HS has completed the first stage of the construction of a canteen structure on the north side of the campus. This structure was sorely needed to provide more sanitary and formalized eating space for the many hundreds of students now in residence at the New Generation School. The bottom floor of the structure housing the canteen itself has now been completed along with the partial completion of a second floor that provides additional classrooms for the New Generation School. This helps to address a severe shortage of classroom space as demand continues to increase while the anti-reform ad-

ministration of the regular school refuses to provide any additional space to accommodate this increasing demand.

Most of the cost for the construction for this structure has been provided by the parents supporting the New Generation School although the NGS Program has also provided about \$40,000 in support. Parents have so far raised over \$300,000 for the building's construction. However, another \$100,000 is needed to complete the top floor, which is supposed to house additional classrooms and a library expansion. Preah Sisovath New Generation School administration hopes to fully complete the structure by the middle of 2023.

↖ New Canteen Structure at Preah Sisovath HS: The picture at the top shows the entrance to the new canteen structure that just opened at the end of 2021 (top). The canteen itself houses over 20 food stalls and can accommodate about 600 students at any given time.

The second floor of the structure has been configured to provide additional space for classrooms and will also accommodate the Gaming Technology Center (see Section 3.19) (middle).

The top floor of the structure is still incomplete but will hopefully be done in 2023 (bottom).



3.26 Networking Outside of the NGS System

The NGS Central Office has continued its outreach to institutions and networks outside of the state education system during the reporting period (see Box 8). In 2021, NGS trainers provided orientation workshops to *Neeson-Crips Academy* on the Constructivist Learning framework developed by NGS while similar workshops were also organized for *Samaritan's Purse* and *Westline Education Group*. This outreach has resulted in the adoption of many NGS materials, particularly as this relates to the pedagogical framework used by New Generation Schools.

During 2022, the NGS Central Office has continued its outreach to additional partners including *Pannasastra International School*, *Sovannaphoum School Group*, and *Pour le Sourire de l'Enfant (PSE)*. These interactions ranged from large workshops (e.g., Sovanaphoum International School) to consultative meetings with senior officials (e.g., Pannasastra International School and PSE). These consultative meetings focused on the possibility of adopting the NGS Model, which has implications for the accreditation process used in the NGS System. Currently, the NGS Accreditation process is limited to state schools only; however, MoEYS may wish to consider extending NGS Accreditation to private schools, as well. It is important for NGS to ensure that those schools using the NGS name meet certain operational criteria so that the brand name of NGS is not diluted.

BOX 8: Educational Institutions to Whom NGS has Reached Out

1. Neeson-Crips Academy (131 Teachers)
2. Samaritan's Purse (130 Teachers and Student Teachers)
3. Westline Education Group (447 Teachers)
4. Pannasastra International School (7 officials)
5. Sovanaphoum International School (100 Teachers)
6. Pour le Sourire de l'Enfant (Executive Director & Academic Manager of PSE)

3.27 Collaboration with USE-SDP2

The NGS System also continued to collaborate with the Upper Secondary Education – Sector Development Program 2 (USE-SDP2) in terms of helping to mainstream NGS programming concepts into this ADB-funded project. During the reporting period, NIE Trainers working for USE-SDP2 visited NGS libraries at Prek Leap and Hun Sen Kampong Cham HS to help replicate the enhanced library services observed into USE-SDP2 Secondary Resource Schools (SRS). USE-SDP2 has also redesigned SRS libraries so that they incorporate some of the design ideas used in NGS libraries. Procurements for new library furniture following NGS configurations have been completed and are currently being delivered to SRS sites. This is a major form of influence that NGS has been able to exert on programming funded by the international development banks.

Library visits were coordinated by KAPE Advisers who are also



↑ **Inter-project Sharing:** NIE Trainers working for USE-SDP2 visit the NGS school library at Prek Leap HS in Phnom Penh.

working in the USE-SDP2 Project under a separate contract between KAPE and MoEYS. The advisers have helped to facilitate the delivery of training materials on library organization and management that are based on NGS manuals. Thus, there has been a significant amount of inter-project sharing between NGS and USE-SDP2 during the reporting period.



Adoption of NGS Design and Organization in a Sister Project: New library furniture arrives at a Secondary Resource School supported by USE-SDP2. The new furniture has sought to replicate NGS designs (top); NIE Instructors working as library trainers for USE-SDP2 listen to the school director at Prek Leap HS, as he explains how the school library supports teaching and learning (bottom). ➔



NGS Primary School Level

3.28 General Overview of Programming in NGS Primary School Sites

Transition to Normalized Programming: The four New Generation Schools at primary level completed a transition this academic year back to face-to-face learning and a 35-hour study week, as per NGS guidelines. Although only two schools (Angkor Ban PS in Kampong Cham and Akhea Mahasei PS in Kampong Speu) are directly supported by MoEYS, all schools have started to coalesce around a single management framework as Child Fund phased out its support for Svay Prahut PS in Svay Rieng Province in 2021 so that all schools are now reverting to direct oversight by the NGS Central Office in Phnom Penh.

Learning Loss Issues: The vigorous online and distance education program that was implemented in New Generation Primary Schools during the Covid19 period of school closure seems to have mitigated the worst effects of learning loss seen in other schools. EGRA test results have been excellent in the early grades and diagnostic tests all suggest that the presence of Learning Loss has been minimal.

Progress towards Accreditation: All primary schools have undergone accreditation visits this year leading to the accreditation of three out of four schools. A certificate of accreditation entitles a school to formally solicit voluntary contributions from parents. ts. Due to lapses in services and the management of resources, the Accreditation Committee 'declined' accreditation to Angkor Ban PS in Kampong Cham Province. Recommendations have been made for improvement at the school and the implementation arm of the program will need to work closely with the school director so that the school can re-apply for accreditation in 2023. Although the decision to decline accreditation at the school was a disappointment, this occurrence demonstrates the rigor of the accreditation system.



Academic Upgrading:

The academic programming at several schools has been increasingly sophisticated with the establishment of ICT and science labs in all schools,⁹ expanded life skills programming, piloting new academic programming in coding and artificial intelligence, and library expansion in some sites. In addition, clinics have also been provided in

↑ **Modern Library Facilities:** The picture above shows the modern library facilities in Angkor Ban PS. Although located in a very rural setting, MoEYS has managed to provide very modern library services through the NGS network.

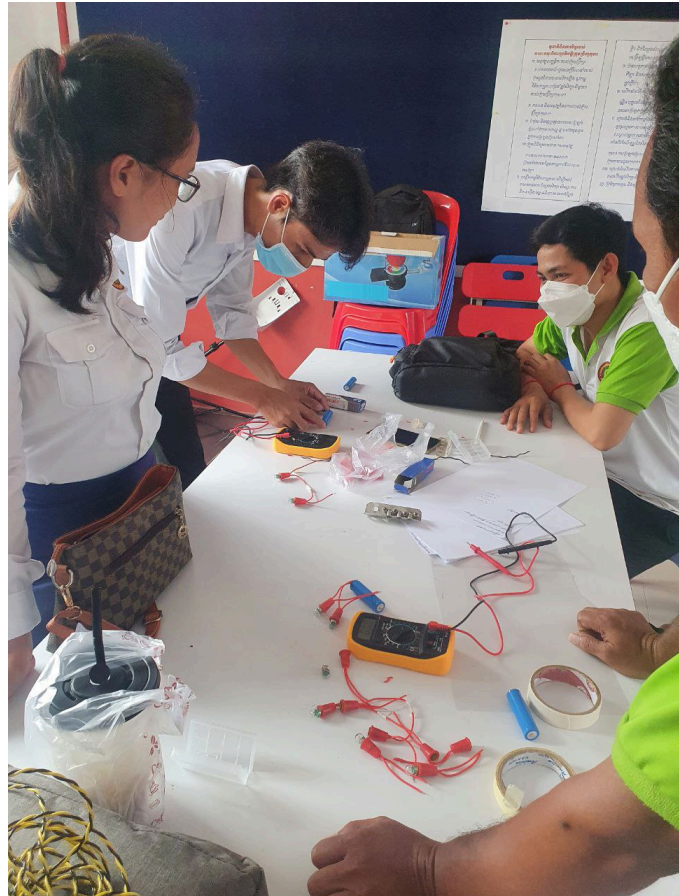
⁹ The Demonstration School and Svay Brahuot PS do not have their own ICT and science lab facilities, but rather share those provided to the secondary schools with whom they share the same compound.

all schools to safeguard the health of students. These improvements in programming have been achieved through a combination of both government funding and local contributions.

3.29 Education Service Upgrading at Primary Level

The current reporting period saw the completion of major investments in science and ICT Labs in Akhea Mahasei PS and Angkor Ban PS. Funding for the former was mainly provided through community support while government funds were used for the latter. Each school now has 25 ICT workstations for students in Grades 4 to 6 so that they can study ICT for at least two hours per week, as per NGS operational guidelines. Science labs are now also up and running in both schools with considerable investments having been made in equipment, materials, and furniture. Regular classroom teachers now lead their students to the labs for all science teaching. The NGS Central Office provided a week of training for teachers in both schools to help them move their science lessons from 'chalk and talk' explanations to more hands-on practice. Similarly, both schools have received ICT teachers who can operate the ICT facilities full-time. Operation of ICT and science labs commenced in May 2022.

All primary schools also continued their efforts to expand their life skills programming. All schools now have advanced agricultural life skills programming supported by garden facilities, fish and frog raising basins, hydroponic gardens, and locations for both learning and hands-on practice. These life skills courses use standardized manuals developed by KAPE and World Education and adopted by MoEYS in 2014. Integrated Pest Management principles that protect the environment are an important hallmark of this curricular program. Full-time life skills teachers have also



↑ **Academic Upgrading:** Primary school teachers at Angkor Ban PS participate in an intimate training workshop on how to provide hands-on science learning in their newly installed science labs (above); Students at Akhea Mahasei PS enjoy new ICT lab facilities recently installed at their school (below).

been appointed in each school to ensure that students receive at least two hours of life skills learning each week.

As noted above, all primary schools have also set up student clinics to ensure that children learn in a safe and healthy environment while they are at school. Clinics are staffed with full-time nurses and fully equipped with materials and furniture to safeguard students' health. While Angkor Ban PS now has a clinic, the program has not yet been able to recruit a full-time nurse to work there due to the rural location of the school. The program hopes that the school will have a nurse on site by the start of the new academic year. Nurses receive a fixed salary from the school of \$300 per month.

Other investments completed during the reporting period include upgrading of the sanitary facilities at the canteen at Angkor Ban PS (cement flooring has now been added), expanding the library at Akhea Mahasei PS, improving the drainage system at Angkor Ban PS to prevent flooding as happened last year, and improvements in playground facilities at all sites.

Investments have also been made in providing mentoring offices at all schools so that school-based mentors have private offices for counseling teachers and meetings. A total of 9 mentors have been posted to each of the four primary schools in the NGS System. All hold a Master's Degree in mentoring from the New Generation Pedagogical Research Center of the National Institute of Education. The allocation of mentors to primary schools is summarized in Box 9.

3.30 Pilot in Coding and Robotics

As per a request from the Minister of Education, Youth, and Sport, the NGS System has sought to focus on introducing 21st Century curriculum content into the public education system. One important pilot that started in 2022 to achieve this refers to the partnership between a software company called mangoSTEEMS and the NGS System. MangoSTEEMS has agreed to discount software licenses to the program so that licenses for both *Robotify* (a coding program) and *Build Something Different* (an app development program) together are about \$25/student. An explanation about each licensed program is provided



↑ **Health Services for Modern Schools:** A male nurse at Akhea Mahasei PS provides first aid to a young girl injured on the playground. Health services such as this are a rarity at most schools and make a strong impression on parents.

BOX 9: Allocation of School-based Mentors to Primary Schools

- Akhea Mahasei PS: 5 Mentors
- Angkor Ban PS: 2 Mentors
- Demonstration School: 1 Mentor
- Svay Brahuot PS: 1 Mentor

in Box 10. The pilot is providing access to these two software programs for Grade 5 and 6 students at the Demonstration School and Grade 7 students in Hun Sen Kampong Cham HS. A total of 195 students are currently participating in the pilot (see Table 3.17). At the same time, 8 teachers at these schools have been trained and certified to teach this program.

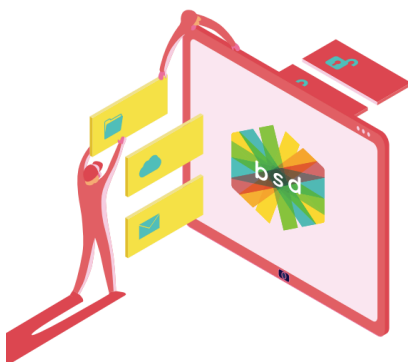
Table 3.17: Investment in Coding and Robotics at Hun Sen Kampong Cham HS and the Demonstration School, 2022

Software Products	Robotify		Build Something Different (BSD)
	5	6	7
Grade Level	5	6	7
Number of Students	53	72	70
Study Hours per Week	1	1	1
Total	125		70
	195		

Based on a review of the pilot at the end of the academic year, the NGS System is considering expanding this programming to other primary and lower secondary schools. This expansion would be financed through a combination of additional software discounts (as the number of students increases) as well as making a case to parents to use parental fees to help offset some of the costs. Using this strategy, it should be possible to keep current government funding the same while expanding the program to more schools. The expanded program will likely start in the 2023 academic year.



↑ **Implementing the Coding Pilot at Primary Level:** Schools have organized a combination of ICT lab facilities and mobile devices housed in the library to enable wide access to the coding program licenses provided by MangoSTEEMS.



BOX 10: What are Robotify & Build Something Different?

Robotify: This is an innovative platform for teaching coding using web-based, 3D robot simulations. The software allows children to choose drones, submarines, space robots, and other attractive technologies as the backdrop for their coding exercises. The program offers 100+ hours of coding and robotics courses.

Build Something Different (BSD): This software focuses on being able to integrate real-world, project-based technology curriculum into all subject areas so that every student, no matter their interest, can develop the skills required for the future. The curriculum is divided into engaging, easy-to-follow modules that enable students to do such things as build a data collection app to gather live data from a soccer game to study in statistics or build a website about the history of ancient civilizations. The BSD curriculum is also mapped to US, IB, and British academic standards and can be implemented immediately with no prior experience – 76% of teachers using BSD have no prior technology experience so that teacher training is very easy to implement.

3.31 Early Grade Reading Assessment Results

In collaboration with the KAPE M&E Unit, the NGS Central Office completed the administration of EGRA tests during the reporting period. This EGRA administration sought to include children in Grades 1 to 3 from all four New Generation Primary Schools. About 261 children participated in these assessments in which children were chosen randomly from selected classes/grades (see Table 3.18). The results this year were truly excellent with nearly all children demonstrating very high letter recognition skills (36.1 letters per minute on average) as well as very high levels of familiar word reading (30.9 words per minute). Even at Grade 1, FWR scores hit 21.5 words per minute, a rate that is much higher than the national reading program, which is still struggling in terms of demonstrating improvements in reading proficiency (see below). Similarly, reading comprehension scores were also very high with children demonstrating the ability to answer 3.27 questions correctly (out of 5 questions) based on a reading passage that they had read. In addition, Zero scores only numbered 3% or less on all subtasks. The program attributes these results to increased levels of continuous assessment, intensive use of Khmer literacy software programs and literacy toolkits, and increased hours of instruction.

Table 3.18: EGRA Testing Outcomes in NGS Primary Schools, 2022

Grade	Students Tested (N)	Consonant Name identification (CNI)	CNI Zero Score (n)	Vowel Name identification (VNI)	VNI Zero Score (n)	Letter name identification (CLNPM)	LNI Zero Score (n)	Familiar Word Reading (CWPM)	FWR Zero Score (n)	Oral Reading Fluency (CWPM)	ORF Zero Score (n)	Reading Comprehension (Correct out of 5)	COMP Zero Score (n)
Grade 1	79	29.90	0	20.16	0	30.77	1	21.45	3	32.28	5	2.51	5
Grade 2	93	31.44	0	20.45	0	36.06	0	33.13	2	48.87	3	3.19	3
Grade 3	89	31.48	0	20.43	0	41.65	0	38.19	1	53.44	0	4.11	0
Grand Total	261	30.94	0	20.34	0	36.16	1	30.93	6	44.86	8	3.27	8
Total Zero Scores (%)			0%		0%		0.4%		2.3%		3%		3%

A comparison of EGRA test scores in NGS settings with national reading test scores using the *Komar Rien Komar Chaes* curriculum suggests huge differences in performance at Grade 1 level when using pre-Covid19 midline test scores (2019). Letter recognition scores were higher among NGS students by a margin of 2.5 times while familiar word reading and oral reading fluency were higher by a margin of 8.3 times and 24.8 times, respectively (see Table 3.19). These results confirm an opinion advocated for by KAPE that high reading proficiency is not so much a function of the curriculum used, but rather of governance conditions that exist in the school, which affect teaching and the frequency of continuous assessment. As noted earlier, these outcomes suggest that Learning Loss issues among primary level students in the NGS System are minimal.

Table 3.19: Comparative Analysis of EGRA Scores in New Generation Schools and the National Reading Program (Grade 1 Children) (N=79)

Sub-task	New Generation School Programming (Post-Covid)		National Reading Program (Pre-Covid)	
	Mean	Zero Scores	Mean	Zero Scores
Letter Name Identification (Letters per minute)	30.8	1%	12.5	11.9%
Familiar Word Reading (Words per minute)	21.5	4%	2.6	66%
Oral Reading Fluency (Words per minute)	32.3	6%	1.3	82%

CASE STUDY: Introducing Hands-on Science to New Generation Primary Schools



Children in Grade 4 at Akhea Mahasei PS in Kampong Speu Province have been benefiting from efforts to upgrade science programming at primary level by emplacing science labs for young children and providing examples of hands-on science experiments to introduce to children. Children shown in the pictures to the left did a hands-on project in which they used principles of machines and kinetic energy to create a device with three wheels that can move using waterpower provided by the emplacement of a bottle of water at the top of the device.



Project work activities such as these help young children see the practical value of learning science. Not only that, children can see that learning science can be 'fun,' moving science instruction away from boring 'chalk and talk' methodologies to more hands-on activities in which children can actually apply the principles that they learn to real life applications. The NGS Central Office hopes that continued exposure of teachers to these hands-on science techniques will further enrich the learning environment of primary level New Generation Schools.



The two pictures above show a group of Grade 4 children with a device that they helped to build themselves that actually works. The device uses the downward force of gravity on wheels to move the device forward. (above)

As part of the effort to introduce hands-on science applications to primary schools, teachers themselves learn new methods of teaching science that model the same kinds of behaviors that trainers hope that they will use with their own students (see picture below).

New Generation Pedagogical Research Center

3.32 Graduation and Posting of New Mentors

As the academic year reached a close at NIE, the third cohort of Mentors at the *New Generation Pedagogical Research Center* completed their theses and prepared to receive their degrees. A total of 23 individuals who enrolled in the Master's Degree Program in Mentoring received their degrees this year. Some of these candidates were recruited from within the NGS System (35%) and will return to their New Generation Schools while the remainder (65%) had been recruited from outside of the NGS System and were posted to a variety of institutions including New Generation Schools (see Table 3.20).

Teacher Training Institutions such as the National Institute of Education continue to demonstrate a strong interest in acquiring Mentors trained at the NGPRC to help support upgrading efforts there. A total of 10 Mentors were assigned to a number of TTIs including NIE, PPTEC, and the Provincial Teacher Training College in Siem Reap. This continues a modality of institution-based Mentors that the Center introduced in previous years to complement a school-based modality of placement.

Graduating Mentors will join 57 Mentors from Cohorts 1 and 2 who have already completed their studies in mentoring at the Center. To date, a total of 80 Mentors have been trained at the Master's Degree Level at NGPRC. This unique program continues to innovate and support other initiatives of MoEYS. For example, there is close cooperation



The Fruits of Mentors' Research: The Minister of Education and other members of the MoEYS leadership review the recently published theses of Mentors who are graduating from the NGPRC in 2022. The NGPRC has been a source of pride for NIE, as it brings high standards of academic study and research to the Institute (above). Mentors receive their Master's Degrees from H.E. Dr. Hang Chuon Naron, Minister of Education (below).



between the Center and the Upper Secondary Education – Sector Development Program 2 (USE-SDP2) to introduce mentoring at Secondary Resource Schools as well as support upgrading efforts at the National Institute of Education. So far, retention of Mentors in the education system has been high with a reported retention rate of 97%.

In September 2022, a new intake of 25 more mentors occurred, which will be the 4th Mentor Cohort since the NGPRC opened in 2019. Upon their graduation, this will bring the number of mentors provided to the education system up to 105 (see below).

Table 3.20: Assignment of Mentors within the NGS System and Other Institutions, 2020-22

Recipient Institution	2022			Total Mentors Posted in 2021 (C)	Total Mentors Posted in 2020 (D)	Total A + B + C + D	Mentors Who Have Left the System	Mentors Who Were Promoted to Vice-Principal	Total Mentors in the current hosted School
	Total Mentors Assigned (A+B)	Mentors Internal to the NGS System (A)	Mentors External to the NGS System (B)						
NGS Institutions									
Preah Sisovath HS	0	0	0	4	4	6**	0	0	6
H.S. Kampong Cham HS	1	1	0	4	3	7	1	0	7
Prek Leap HS	0	0	0	1	3	4	0	0	4
Prek Anchanh HS	2	2	0	1	3	6	1	1	4
Peam Chikong HS	1	1	0	3	2	6	0	0	6
Kok Pring HS	2	1	1	2	2	6	0	1	5
Demonstration School (PS)	0	0	0	1	0	1	0	0	1
Angkor Ban PS	1	1	0	1	0	2	0	1	1
Svay Prahut PS	0	0	0	1	0	1	0	0	0
Preach Akamahe-sey PS	0	0	0	4	0	4	0	0	4
Subtotal	7	6	1	19	17	43	2	3	41
Non-NGS Institutions									
Nat'l Institute of Education	3	0	3	5	2	10	0	0	10
Primary Practice School (NIE)	2	0	2	0	0	2	0	0	2
Secondary Practice School (NIE)	2	1	1	0	0	2	0	0	2
PPTEC – (P Penh)	1	0	1	0	3	4	0	0	4
BTEC – (Battambang)	0	0	0	0	3	3	0	0	3
Samdach Ou HS*	0	0	0	3	0	3	0	0	3
Phnomsampov HS*	0	0	0	2	0	2	0	0	2
Prosoth HS*	2	0	2	0	0	2	0	0	2
PTTC_Siem Reap	2	0	2	0	0	2	0	0	2
Net Yang HS*	2	0	2	0	0	2	0	0	2
Suong HS*	2	1	1	0	0	2	0	0	2
Subtotal	16	2	14	13	8	34	0	0	34
Total	23	8	15	32	25	80[†]	2	3***	75
As a Percentage	100%	35%	65%	100%	100%	100%	2.5%	4%	94%

*Posted to Schools in Upper Secondary Education-Sector Development Program (USE-SDP2) for Mentoring Pilot.

**Two mentors were terminated from NGS-SSW; as a result, one of them has been re-posted at the Practice Secondary School at NIE while the other one has been re-posted at Suong HS.

*** Three mentors have been promoted to be Vice Principals of Practice Schools at NIE (one at primary level and another at secondary).

[†]Includes 3 re-assigned mentors.

3.33 New Intake at NGPRC

A total of three cohorts have now graduated from the Center comprising 80 Mentors. During May-June 2022, the Center has been preparing for a new and fourth intake of prospective Mentors to study in the Master’s Degree Program. After an advertising campaign (see poster), a total of 152 individuals applied for admission to the program. This strong response implies that there is still growing interest in the mentoring program at NGPRC. All applicants are currently working in the state education system. Following an entrance examination (Pedagogy and English Proficiency), an interview of short-listed candidates, and a teaching demonstration, 25 candidates (or 16% of those applying) were eventually selected for admission. These selected candidates will be matriculated into the Master’s Degree Program in September 2022.



CAREER OPPORTUNITY FOR TEACHERS! BECOME A MENTOR

Helping teachers to reach their full potential



non-threatening way, by establishing long-term relationships with them.

School-based mentors are expert teachers, who support their peers, by providing feedback and advice on their classroom practice. Being experienced teachers and working in the same school as the teachers they support, they have the best understanding of their problems, and can adapt their intervention to the real situation. Mentors help the teachers in a benevolent and

Graduation Program

The mentors trained by the New Generation Pedagogical Research Center (NGPRC) will obtain a Master’s Degree of Education in Mentoring. Mentors who graduate from NGPRC will be assigned to key schools and institutions, such as New Generation Schools, Secondary Resource Schools or Teacher Training Institutions, in order to support major educational reforms. They will demonstrate a strong understanding of ethical practices in the teaching profession as well as the ability to mentor one’s peers. They will also update their knowledge on educational research, ICT in education and, of course, teaching methodology.



You are an experienced teacher?

You want to take more responsibilities?

You think you can make a difference for the children?

Contact us

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3.34 Moving from Virtual to Face-to-Face Practicum Experience

When the NGPRC first opened in 2019, it was battered by the advent of the Covid19 Pandemic and had to move its academic program from a face-to-face modality to online learning in March 2020. A new outbreak of the virus caused the same response in March 2021. However, as the government’s vaccination program has helped to bring virus transmission rates under control, Cohort 3 has been able to experience a fully face-to-face program of learning for the

BOX 11: Elements of the Practicum Program

- ✓ Mentors observe long recorded videos and role-play a difficult scenario at the center (Week 1 & 2).
- ✓ Mentoring practicum at private school (Week 3 & 4)
- ✓ Mentoring practicum at public schools (Weeks 5 to 8). *In this setting, the Center rotated all four mentor groups every two weeks to different schools. This meant that each mentor group spent two weeks in each school. After that, they needed to move to conduct their mentoring practicum in another school.*

first time in the Center's short history. This face-to-face modality of learning also applied to the 3-month Practicum that took place between May-July 2022 (see Box 11). Five schools were selected to host the Mentoring Practicum including the following:

- Sovanaphumi School (4 different campuses)
- Practice Primary School (NIE)
- Practice High School (NIE)
- Prek Leap High School—New Generation School
- Hun Sen Bunrany Chbar Ampov High School

The Mentoring Practicum seemed to work best at Sovanaphum School, Prek Leap HS, and Chbar Ampov HS. The Practice Schools at NIE refused to cooperate with the Center even though official nomination letters and approval had been provided using the proper channels. Thus, the school managers at these Practice Schools defied the nomination letters of the NIE Director and were able to completely undermine one of the primary functions for which they were established in the first place - to host a practicum experience. The NGS System strongly recommends that these school managers should be subject to firm disciplinary action for undermining an important area of MoEYS investment. In spite of the obstacles encountered at the NIE Practice Schools, prospective Mentors were able to experience the challenges and successes of building a supportive relationship with fellow teachers. A more detailed summary of the successes and challenges experienced during the Practicum is presented in **Annex 4**.

3.35 Documenting Guidelines on Different Modalities of Mentoring

As the current network of New Generation Schools have their mentoring needs met with successive outtakes of Mentors, the Center has been exploring other modalities of Mentor placements besides school-based modalities. Even since the early days of the posting of Mentors, several have already been posted to Teacher Training Institutions such as Phnom Penh and the Battambang Teacher Education Centers (PPTEC & BTEC) as well as the National Institute of Education. These TTI-based mentors have been helping with improvements in practicums for prospective teachers, including mentoring concepts into the curriculum, and generally helping with higher quality instruction.

The Center is also piloting other modalities of Mentor placement such as Secondary Resource School-based Mentors and those based in projects, such as USE-SDP2. While these other placement modalities have great potential, there are challenges relating to the enabling environment needed to support Mentors in their roles, particularly those based in SRS's.¹⁰ For example, if the school director does not support the Mentors; if Mentors have no working space; or if teachers feel that mentoring is not a useful investment of their time, the likelihood of a successful placement is apt to be low. Project-based Mentors seem to benefit from the more structured working environments that they encounter in their placements with clearly outlined tasks and lines of supervision. The lack of a clear position title within a school for Mentors is quite a challenge in this respect, which often undermines the effectiveness of Mentor placements.¹¹ New Generation Schools do not suffer from such limitations, since they have the autonomy to create positions to

¹⁰ The Center is currently piloting SRS-based Mentors in two schools one of which is in Battambang while another is in Takeo. This pilot is being implemented in collaboration with USE-SDP2.

¹¹ MoEYS is currently requesting the Civil Service to consider the creation of additional staffing designations within the staffing structure of a school such as 'Counselor' and 'Mentor' to join other official designations such as Director, Vice Director, Teacher, and Librarian.

accommodate Mentors, provide extra incentives to support their work, and provide an effective overall enabling environment. Normal schools, however, do not have these advantages.

Other possible modalities of Mentor placement that the Center is also considering include DOE or POE-based Mentors where mentoring expertise can be used to improve the quality of in-service and teacher oversight. The NGPRC is currently documenting guidelines that govern various modalities of placement to help MoEYS gain the maximum benefit from the investment in Mentor training that it is currently providing.

3.36 Planning for National and International Conferences (Round 3)

The New Generation Pedagogical Research Center has already implemented two international conferences on mentoring involving many educators and researchers across multiple continents. A list of some of the international institutions that the Center is working with to organize the Conference is provided in Box 12. This has become an annual milestone event that the Center now plans to do every year. However, due to the extremely heavy workload this year resulting from the various collaborations with different projects and institutions¹² as well as the transition to a face-to-face practicum, the Center has decided to postpone the planned international conference to mid-2023 instead.

BOX 12: National & International Institutions Working with NGPRC on International Mentoring Conference

- The Holy Cross of Davao College, Philippines
- The Angkor Intellectual Academy, Cambodia.
- Texas A & M University, USA.
- Arizona State University, USA.

3.37 Revisions in the Master’s Degree Program Curriculum and Syllabus

The Mentoring Program at NGPRC continues to be a dynamic and evolving study program within the NIE. This is particularly true of the Master’s Degree Program Syllabus, which is currently undergoing its fourth revision. These revisions are intended to reflect new global trends in education, especially as this concerns the impact of the Covid19 Pandemic on learning. In addition, Stream 2 of the Syllabus (English for Educational Research) is also being revised to better facilitate the thesis-writing requirement that degree candidates must fulfill. All revisions in the Syllabus document were completed by the time that Cohort 4 began its studies in September 2022.



3.38 Collaboration with the NIE and USE-SDP2 Project

One of the important mandates of the NGPRC is to support upgrading efforts at the National Institute of

¹² For example, NGPRC has entered into a collaboration with the HEAD Foundation of Singapore to organize a cutting-edge series of training workshops on STEM Education for NGS Science Mentors as well as intensive support to the NIE under the auspices of the Upper Secondary Education – Sector Development Project 2, to say nothing of its regular responsibilities to support Mentors across the 10 New Generation Schools. These commitments have been very demanding on the limited resources of the Center.

Education. Since the Center is officially part of NIE, its high standards of academic study are already promoting a much better image of the Institute as a place of educational innovation and change. The Center has been trying to support the Institute in other ways through its collaboration with the MoEYS-ADB-funded USE-SDP2 Project.¹³

To facilitate the efforts described above, the Center has membership in several development committees including the *Research Development & Innovation Committee* as well as the *Curriculum Development & Innovation Committee*. The former focuses on building the ability of the Institute to conduct research while the latter focuses on revising the curriculum syllabus for the Bachelor's Degree Plus 1 stream as well as the Master's Degree Program. Most recently, the Center has helped the Institute to develop the statutes of an Alumni Association for NIE, based on its experience in setting up the *Mentoring Association of Cambodia*. This Alumni Association will help graduates of the Institute to keep in touch with the latest educational developments at NIE.

Finally, NIE has asked the Center to help support technical improvements at both the Primary and Secondary Practice Schools, which are adjacent to the NGPRC building. Unfortunately, it has been difficult for the Center to fulfill this expectation because the school directors at both schools refuse to cooperate with NGPRC even when told to so by the NIE Director. Until the Institute can resolve such problems, it is difficult for the NGPRC to provide much support in this regard.



↑ **High Demand for Admission:** Candidates sit for the Entrance Examination as part of the selection process for the Master's Degree Program in Mentoring at the NGPRC. The selection process also includes an interview, a portfolio of teaching videos demonstrating good practice, as well as in-person teaching demonstration for the Admissions Committee.

¹³ Component A of USE-SDP2 focuses on upgrading the National Institute of Education.

4. PROGRESS WITH KEY PERFORMANCE INDICATORS

The NGS Program is required to report on 20 official key performance indicators (KPI's) across three outputs to the Ministry of Education, Youth, and Sport each year. These indicators and the outputs with which they are associated can be found in **Annex 1** of this document. As NGS Reforms have been in progress for seven years, all indicators have now been achieved including the on-going administration of Critical Thinking Tests (which are trending above baseline values), accreditation of all secondary schools, and achievement of dropout rate targets (now less than 2%) (see Table 4.1). Some indicator targets have been exceeded such as investments in infrastructure.

Most program indicators would have been achieved much sooner if not for the two-year interruption caused by school closures during the Covid19 Pandemic (2020 and 2021). Many performance targets could not be properly tracked such as the Bac II Exam results (exams were cancelled in 2020) or dropout (when students were mostly studying from home). Now that all KPI's have been achieved, the project will need to review the need for the inclusion of additional performance indicators with MoEYS/MoEF for 2023, especially if there is an expansion of programming to new schools.

Table 4.1: Summary of Results-based Indicators for MoEYS Reporting, 2022

Output	Total Indicators	Achieved	%	Not Achieved	%	Pending/In Progress	%
Output 1: Implementation of Expanded Investment Planning at 5 Existing NGS Sites (Secondary) and 3 Existing Primary School Sites)	12	12	100%	0	0%	0	0%
Output 2: Completion of a successful NGS National Survey	1	1	100%	0	0%	0	0%
Output 3: Development of a National NGS Framework & Social Equity Fund with replication in at least 5 new sites	7	7	100%	0	0%	0	0%
Total	20	20	100%	0	0%	0	0%

5. CHALLENGES GOING FORWARD

5.1 Prospects for Sustained Operation

In general, the prospects for sustained operation in most New Generation Schools is quite good although it is important to remember that there is some variability between schools, as well. This is particularly true among schools located in rural areas. In 2022, New Generation Schools reported raising over \$1.5 million from parents for recurrent operating costs. This is a huge amount of local funding. Parents seem happy to provide these contributions because there are no hidden fees for ‘rien kua’ charged by teachers, which means that most parents are actually saving money by paying this one unitary school fee. Parental funding so far covers about 80% of the operating costs at secondary school level and 81% at primary level (see Table 5.1).

Although sustained operation prospects at both primary and secondary schools seem very promising, it should be noted that aggregated assessments of parental support mask some structural problems within the NGS System in which a small number of schools simply do not have the critical mass of community wealth to cover a minimum target of even 70% of school operating costs. For example, Angkor Ban PS in Kampong Cham Province reported that parental contributions were only able to cover about one-quarter of operating costs with parental contributions while Svay Prahut PS in Svay Rieng Province could only cover 44%. It was understood at the very beginning of investment in these schools that their rural locations would present long-term challenges for sustained operation. It is hoped that the MoEYS will be able to make a long-term commitment to providing social equity funds to these schools to ensure that high levels of educational service can be maintained at these schools until such time that community wealth levels reach the required threshold needed to sustain NGS operation.

Table 5.1: Summary of School Operating Costs and Sustained Income, (to be used in 2023)

School Name	Budgetary Support from MoEYS/Child Fund/FFF**	Local Support (Est.)	Total Operating Costs	% of Costs Locally Sustained
<i>Secondary Level</i>				
Subtotal	\$836,155	\$1,340,000	\$1,670,940	80%
<i>Primary Level</i>				
Subtotal	\$213,928	\$202,000	\$249,145	81%

5.2 Articulating a Coherent Vision for a Free-Standing Accreditation Unit

The need for an independent and expanded NGS Accreditation Office is becoming increasingly urgent, as more and more schools require annual accreditation. In addition, the possible funding of an NGS expansion with support from the Asian Development Bank in 2023 will create further demands on the capacity of the NGS System to provide support for accreditation activities. Similarly, the interest of some schools in the private sector to acquire NGS accreditation is another interesting twist in the evolution of the NGS brand that may also make additional demands on the accreditation capacity of the NGS System. Currently, accreditation activities are largely dependent on a single full-time staff person within the NGS Central Office and the part-time efforts of government staff. Going forward, these staffing arrangements will likely no longer be sufficient. Accordingly, the NGS System is hoping to raise additional resources from the Franks Family Foundation to support additional full-time staffing as well as set up separate offices for the Accreditation Office that would give it some distance from the implementation arm of the NGS System.

KAPE is requesting a \$50,000 grant from FFF over a three-year period to help achieve this vision of a better staffed and equipped Accreditation Office. Eventually, it is hoped that an Accreditation Office operation would be self-sustaining through the ability of schools to pay accreditation fees, which would go into an NGS Endowment Fund, part of which could be used to fund accreditation activities.

5.3 Dealing with Anti-Education Reform Teachers at Prek Leap HS

The NGS System has recently faced one of the most serious threats to its integrity at Prek Leap HS. At this school, a group of anti-reform teachers have joined together to try to shut down NGS Reforms at the school and set up an alternative ‘regular’ school where ‘rien kua’ classes and other corrupt teacher practices would once again be allowed. It should be noted that NGS Reforms at Prek Leap have been set up as a ‘whole school’ model in which the entire school subscribes to NGS programming. The whole school model was requested by MoEYS to avoid divisive programming that often results when a ‘school in a school’ model is employed, such as at Preah Sisovath HS. Although over 100 NGS teachers as well as the school’s administration have formed a united front against these anti-reform efforts, the MoEYS has called for a compromise in which students should be allowed to choose whether they would like to attend the New Generation School or a non-NGS facility run by anti-reform teachers. The MoEYS organized a stakeholder meeting involving teachers, the school administration, and many local officials to try to defuse this conflict. This meeting was held in June 2022 and put forward six principles to avoid conflict. These principles are summarized in Box 13. At the urging of the Minister of Education, all groups accepted these principles. The next big test going forward will be what happens in the next academic year should there be no students who choose to attend classes run by anti-reform teachers, as the vast majority of parents appear to support NGS programming rather than the corrupt educational practices that anti-reform teachers seek to re-instate.

BOX 13: Compromise Principles to Address Conflict with Anti-Education Reform Teachers at Prek Leap HS

1. Students have the right to choose the school they attend and should not be forced to attend a non-NGS School.
2. Parents similarly have the right to choose the kind of school they want their children to attend.
3. The Government will build a new classroom building to facilitate the principle of choice since the current number of buildings is not enough.
4. The school should allow 3 regular classes if additional space is not enough or students with an interest in attending a regular program cannot be found.
5. Measures should be in place to prevent violent protest by either pro- or anti-reform groups.
6. Principles of compromise should always be observed.

5.4 The Challenges Facing NGS Programming in Rural Areas

As noted earlier, New Generation Schools in rural areas face some significant challenges in terms of their financial sustainability due to the more limited ability of local parents to make significant contributions to the school to cover real operational costs. These operational costs include supplementary payments to teachers (so that they focus primarily on their regular teaching duties and not their private classes – which are forbidden under NGS rules), utility and internet costs, school grants to support activities that enhance child friendly school environments, materials, maintenance of equipment and physical plant, and other costs. The New Generation Schools in Svay Rieng Province that just moved from Child Fund to government support in 2021, for example, require between \$65,000 to \$70,000 per year to cover their operational costs but were only able to raise

\$35,000 from parents. Although this is still a significant fund-raising achievement considering that this is a rural area, the schools were short over \$30,000. For 2022, KAPE and FFF have been able to fill the funding gap with alternative funds; but *sustained operation of New Generation Schools in rural areas will require a firm commitment from government to fund the Social Equity Fund so that shortfalls such as this can be made up from public funds.*

Another problem for rural New Generation Schools relates to staffing requirements. Because New Generation Schools require individuals with high levels of education and professionalism, it is often difficult to find teachers with these qualifications in local areas. The NGS Central Office has of course provided Continuous Professional Development opportunities to upgrade teachers but there is an assumption that teachers have some basic prerequisite qualifications (e.g., ICT proficiency, intermediate English,

etc.) to benefit from these inputs. As a result, rural New Generation Schools often have to recruit qualified staff from more urban areas or outside the province, which itself raises challenges to get teachers to work in such rural locations.

Because New Generation Schools should be for all children and not just those in urban or semi-urban areas, the resource deficit both in terms of financial and human resources is a significant challenge for sustained operation. Unless such challenges can be effectively addressed, there is the danger that access to high-quality educational services offered by New Generation Schools will be denied to rural populations.

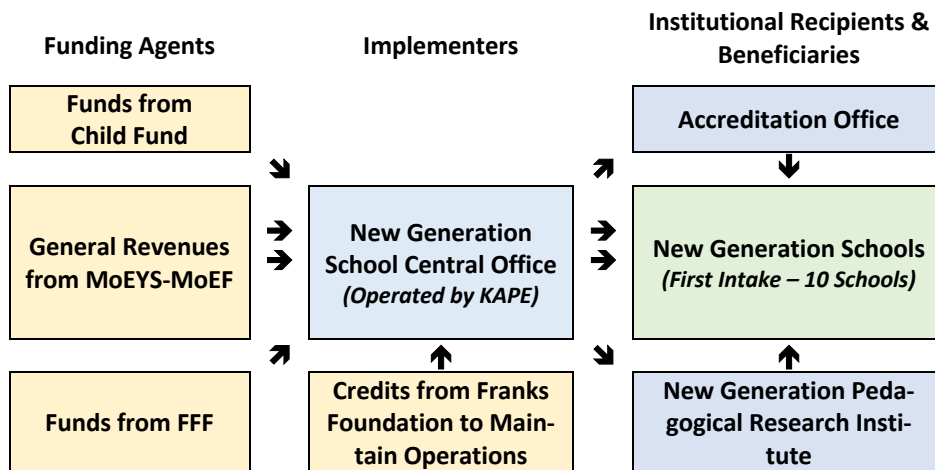
5.5 Parallel Project Structures Supporting NGS Expansion

One of the original strategies to promote the expansion of the NGS System was to attract additional donors to fund NGS emplacement using the policy framework that was developed with MoEYS to ensure consistency and consensus in implementation principles. This strategy seemed to be working in the early stages of NGS implementation when Child Fund and the Franks Family Foundation both committed to funding NGS programming through the NGS Central Office mechanism. Unfortunately, NGS has not been able to attract other funders, particularly among the bilateral or multilateral donors. As KAPE was the implementer chosen by MoEYS, FFF, and Child Fund, the logistical structure for funding and implementation was relatively straight forward with all funds flowing to the New Generation School Central Office (see Figure 5.1).



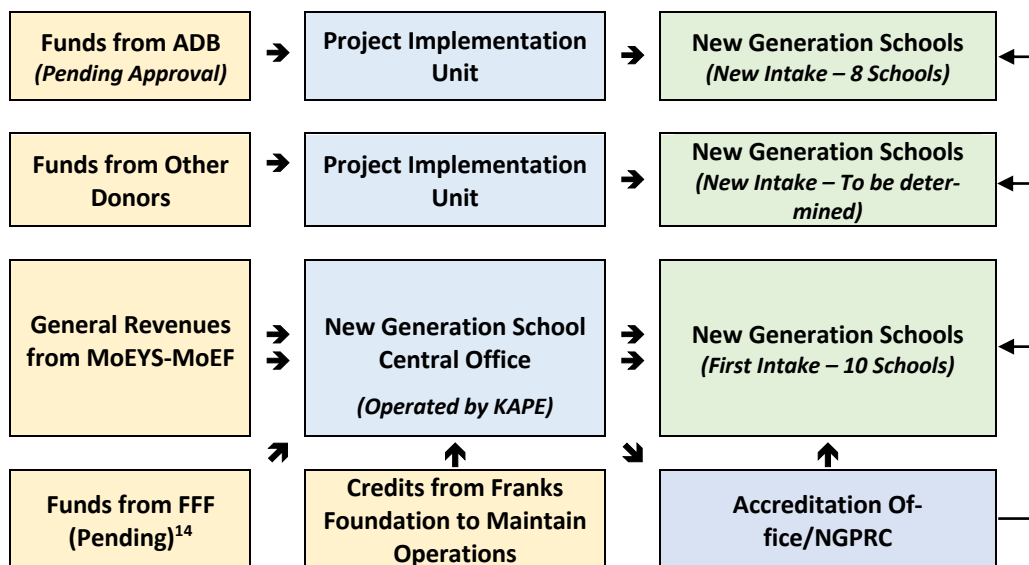
↑ **High Quality Education in Rural Areas:** The picture above illustrates students in Kok Pring HS, Svay Rieng doing a science experiment. Even though some New Generation Schools are located in rural areas, they can still provide a high quality of education to their students, which demonstrates the egalitarian side of NGS programming.

Figure 5.1: Current Funding and Implementation Structure for New Generation School System



The implementation structure shown in Figure 5.1 may, however, be changing as government negotiates additional loans from the Asian Development Bank (and possibly other multi-lateral donors) that could lead to added support for New Generation Schools at secondary school level. The new project funded under the ADB loan is called CamSTEPUp and currently has an NGS Component. This project would likely have its own Project Implementation Unit (PIU) and would not provide funds to the NGS Central Office. The logistical structure for implementing an NGS expansion under a different donor is, therefore, unclear and would probably occur in parallel to what the New Generation School Central Office is currently doing (see Figure 5.2). Depending on the direction and evolution of new funding for New Generation School expansion, there may be significant challenges in trying to coordinate activities among parallel implementing structures and units. The NGS Policy Framework will certainly help to ensure convergence among different implementation units, but coordination may still be a challenge.

Figure 5.2: Possible Evolution in Funding and Implementation Structures for New Generation School System Should New Donors Become Involved in Funding



¹⁴ The Franks Family Foundation has suggested that it might be willing to fund an 11th New Generation School in Siem Reap Province if it meets selection criteria needed for successful implementation. KAPE is currently working with the Provincial Office of Education in Siem Reap to select a potential school that would receive FFF investment.

5.6 Piloting Different Modalities of Mentor Placement

The New Generation Pedagogical Research Center has been experimenting with different modalities of mentor placement over the last year (see Box 14). The primary mandate of the NGPRC at its inception was to provide school-based mentors for all New Generation Schools who would each work with about 10+ teachers. In 2022, all open placements for Mentors in New Generation Schools have now been filled with 56 Mentors or 70% of those who have graduated from the Center having been posted as school-based mentors (in both NGS settings and those in the USE-SDP2 Project). For the other 24 Mentors who have graduated from the NGPRC, the Center has used other modalities of placement. For example, 22 Mentors have been posted to Teacher Training Institutions (TTIs) such as the National Institute of Education (NIE), Teacher Education Centers (TECs), and Regional Teacher Training Centers (RTTCs). This institution-based modality of placement has been very helpful to these institutions, as they bring trainers with high expertise in mentoring techniques to help support operations. An additional two mentors have been placed as project-based mentors in which they are providing assistance to state schools to upgrade Contract Teachers in areas such as Ratanakiri, Kratie, and Siem Reap. These two mentors are providing a one-year certificate course to 20 Contract Teachers each year using intensive mentoring principles.

BOX 14: Different Modalities of Mentor Placement

- School-based
- Institution-based
- Project-based
- Province-based
- District-based

Different modalities of mentor placement are having a very positive effect on teacher upgrading activities and are helping to leverage the impact that the NGPRC can have on various aspects of teacher training within the public education system. The Center is also considering other modalities of placement such as Province or District-based Mentors who could help support teacher upgrading activities at that level as well. NGPRC will discuss such additional modalities of placement with MoEYS to determine whether this might be useful to help support teacher upgrading.



The Center is also considering other modalities of placement such as Province or District-based Mentors who could help support teacher upgrading activities at that level as well. NGPRC will discuss such additional modalities of placement with MoEYS to determine whether this might be useful to help support teacher upgrading.

5.7 Issues of Branding and Accreditation

As New Generation Schools become increasingly established and well-known to the Cambodian public, there has been growing interest in the high governance model that they use to achieve high standards of educational quality. As noted in Section 3.26, NGS Advisers and Managers have been reaching out to institutions outside of the public education system as well to help promulgate better understanding of how New Generation Schools work and the pedagogical framework that they use.

Although NGS practitioners are very happy to see the strong interest in the evolving educational model used in New Generation Schools, there have been some developments of concern, as some private schools actually start calling themselves New Generation Schools, though they have not passed any accreditation review. Some public schools are similarly calling themselves New Generation Schools without having applied for official

accreditation. Such self-designations could hurt the NGS Brand and lead to a dilution of what it means to be a New Generation School.

Currently, private schools are not authorized to apply for NGS accreditation. However, if there is strong interest in the private sector in adopting NGS standards, it might be possible to modify the guidelines to allow both private and public schools to apply for accreditation. This would ensure that the criteria defining a New Generation School retain their integrity. However, such changes would put additional pressure on the Accreditation Office, which is already struggling with a significant increase in responsibility to organize accreditation in the ten existing New Generation Schools and new ones that may come online, as the NGS System receives additional funding from multi-lateral donors such as ADB. Thus, there is a challenge to further increase both the capacity and standing of the Accreditation Office within the NGS System as well as possibly modify accreditation guidelines to make them inclusive of schools in the private sector.

5.8 The Need to Better Rationalize Financial Management among Member Schools

As noted earlier in this report, parental contributions to New Generation Schools have been exploding as accredited schools make use of their right to solicit voluntary contributions from parents as per the NGS Operational Guidelines. The success of these efforts has led to a huge increase in parental donations, which schools now report exceed \$1.5 million across all schools. While NGS programmers are very pleased by the tremendous response of parents to support NGS Reforms with their pocketbooks, there is also concern that the rapid increase in resources may start to overwhelm mechanisms in place for responsible and accountable management of new funds. For example, there is a natural desire to reward teachers with payment increases since they are the ones who are largely responsible for the improvement in standards; however, schools need to understand that such decisions cannot be made unilaterally without consultation and approval of the National Oversight Board. In addition, large investments in additional facilities by schools or increases in remuneration may be subject to taxation, which is a new concept that schools have never had to deal with in the past. KAPE has already been informed by auditors from MoEF that parental funds will be subject to audit review in 2023 (in addition to program funds) to check compliance with tax laws and other uses of these funds.

In view of the challenges described above, KAPE will hire a financial consultant in 2023 to better document rules of financial management in schools (e.g., incentive increases must be subject to board approval) to ensure fully transparent and accountable use of parental funds. Creating a more detailed framework and training schools on how to use it will ensure that the program can maintain high levels of financial transparency and prevent incidences of mismanagement whether they are either intentional or not.

5.9 Inability of Angkor Ban PS to Achieve Accreditation

All schools in the NGS System are now accredited save one – Angkor Ban PS. The reasons provided for the ‘decline to accredit’ conclusion of the Accreditation Subcommittee relates mainly to an attitude problem by the school director who now no longer wishes his school to be a New



Generation School. To be clear, the performance of teachers, mentors, librarians, and students at the school is excellent; however, the main problem seems to be one of leadership and a willingness to leave the old ways behind. In addition, the rural situation of the school creates many challenges including the poor educational backgrounds of many parents and the widespread rural poverty that constrains the ability of the local community to support the school. These issues have been reported by the Accreditation Subcommittee to both the National and Provincial Board and it is hoped that a red carpet talk with the school director will lead to a more successful accreditation visit in 2023.



↑ **Smiles of Success:** A student group shows their receipt of a check for 8,000,000 Cambodian Riels (\$2,000) for a project they presented called 'Smart Home.' Student Projects such as this build personal confidence and creative experiences for students enrolled in the New Generation School System.

6. CONCLUSIONS

The Normalization Process: With the re-opening of all schools in January 2022 without Covid19 restrictions on class sizes as well as rapid progress in vaccinating all students throughout the country, New Generation Schools were able to return their operations to a normal footing in a remarkably short time. Because of the robust system of online learning and distance education in the NGS System, Learning Loss issues appear to be minimal. Indeed, EGRA score results at primary level this year exceeded all expectations in the most positive way. Thus, the high governance standards at New Generation Schools appear to have enabled a rapid return to more normal standards of operation as the Covid19 Pandemic recedes.

Key Achievements: As the 2022 school year ended, the project collected a great deal of information relating to key performance indicators (KPI's) that indicated very positive outcomes such as performance on the national leaving examination and transition to university. Some of the most important of these outcomes are summarized in Table 6.1. Many of these KPI's tower over national rates suggesting that investments in governance seem to have a major effect on terminal performance. This stands in marked contrast to many of the uni-dimensional development programs that focus primarily on curricular and teacher training inputs funded by the mainstream donors. These outcomes are particularly surprising when one considers that many of the New Generation Schools that are now top schools were once among the most poorly performing schools in their districts/provinces. For example, before the emplacement of New Generation Schools at Preah Sisovath HS, the school had a performance rank of 28 out of 31 high schools in the capital city but is now considered the capital's top-performing public school. The ability of New Generation School programming to so dramatically turn poorly performing schools around very much helps to validate the good governance strategy that is at the heart of these educational reforms.

Key Milestones during the Reporting Period: As the process of normalization has accelerated, New Generation Schools appeared to be back on track to achieving many performance milestones. The most important of these are summarized in Box 15. An important theme in several of these milestones relate to efforts to consolidate and sustain NGS operations. In this respect, parental financial support of New Generation Schools increased dramatically as more schools were able to demonstrate compliance with NGS accreditation criteria. Currently, 90% of schools are now accredited while among secondary schools, 100% are accredited. Increasing rates of accreditation (and perceived educational quality) have, therefore, spurred the ability of schools to solicit financial support from parents. As parental financial support increased to over \$1.5 million in 2022, unit

Table 6.1: Key Metrics for New Generation School Performance (2022)

Metric	NGS	National
1. Bac II Examination Pass Rate (among Science Students)	82%	69%*
2. Students with A, B, or C Bac II Pass:	43%	22%
3. Transition to University:	84%	13.69%**
4. Students Receiving Medals/Awards:	1,036	n/a
5. Students studying ICT 3 hrs/week or more:	100%	0%
6. Dropout Rate:	1.3%	LSS: 16.6% USS: 18.5%
7. New Generation Schools Accredited:	90%	n/a
8. Secondary School Teachers with 4-Year Degrees or Higher:	90%	43%
9. Teachers Completing Career Path Plans:	98%	n/a
10. Student Projects Completed	1,792	n/a
11. Familiar Word Reading Zero Scores at G1 (Primary Level)	4%	66%

*Science Stream Only; **Gross Enrolment (Tertiary)
Sources: MoEYS, 2021; EMIS, 2020; World Bank, 2018

costs of operation for the government have continued to decline (see Box 15). At the same time, the NGS System has been able to absorb formerly donor-supported¹⁵ New Generation Schools in Svay Rieng Province into the national network. Thus, it is a major achievement that unit costs have been declining while the operational scope of the program is still expanding. These developments bode well for the long-term sustainability of the NGS System.

The Issue of NGS Expansion: A frequent question that the Ministry of Education, Youth, and Sport often receives is, given the strong success of New Generation Schools as an educational reform, why doesn't the government further expand the system to more schools? The answer to this question is somewhat complicated. First, the government has already committed to the principle of support to NGS reforms not only in MoEYS policy, but also in the Rectangular National Development Strategy of the Royal Cambodian Government. In addition, MoEYS has successfully negotiated the inclusion of an NGS Component within a new secondary education support project called CamSTEPUp that will be funded by a large loan from the Asian Development Bank. This marks a breakthrough for the Ministry as the ADB becomes the first mainstream donor to support NGS reforms while most other large donors continue to shun them. Thus, MoEYS is supporting an expansion of NGS programming through new loan agreements coming online. On the other hand, government finances are still somewhat constrained by the economic disruptions to tourism and export caused by the Pandemic, and it may take some time for tax revenues to recover. Nevertheless, MoEYS has renewed its commitment to support New Generation Schools at current levels of funding and as parents continue their expanded support of the program, the Ministry may have surplus funds to add several more schools to the system.

Another important factor to consider in expanding the NGS System relates to the way that a school buys into being a New Generation School. Unlike most projects, NGS programmers always begin the school selection process with intensive consultations with all stakeholders including administrators, teachers, parents, and local officials. MoEYS does not 'order' a school to become a New Generation School, but rather a large majority of locals stakeholders must seek to join the system voluntarily. That is, there needs to be a strong current of consensus among all stakeholders (and especially teachers) in order for MoEYS to commit to invest in a school. The only way that MoEYS might consider forcing

BOX 15: Summary of Key Milestones in the NGS System

1. **Normalization:** Rapid return to normal after relaxation of Covid19 restrictions.
2. **Accreditation Rate:** The Rate of School Accreditation reached 90%.
3. **Parental Support:** Parental contributions to sustain NGS operations broke the \$1 million mark in 2022.
4. **Declining Unit Costs:** As parental contributions increased, government unit costs in supporting secondary schools dropped further from \$271/student last year to \$256/student in 2022.
5. **Empirical Research:** A number of new research articles on NGS appeared, helping to provide additional empirical validation of the effectiveness of NGS Reforms.
6. **Club Membership:** The profusion of subject clubs producing project work accelerated with reported club membership of over 5,731 students.
7. **Reading Proficiency at Primary Level:** Familiar Word Reading at Grade 1 exceeded the national average by 8 times while Oral Reading Fluency was 25 times higher.
8. **Absorption of New Generation Schools in Svay Rieng into the National NGS System:** As Child Fund phased out its support to New Generation Schools in Svay Rieng, the national NGS System has been able to successfully absorb them into its oversight and support.

¹⁵ Child Fund Australia

a school to become a New Generation School is to use a ‘school in a school’ approach in which a New Generation School is organized around (and usually excludes) teachers and administrators who refuse to participate.¹⁶ But this is always the last choice of the Ministry and there is a strong preference to select schools where most stakeholders have a desire to comply with NGS operational criteria (e.g., the cessation of private tutoring, increased hours of learning, adoption of ICT in education methods of teaching, etc.). Since many teachers see the profits that they generate from their private classes as the highest priority, it is often difficult to find schools that want to voluntarily join the NGS System. This, then, is also a major constraint on the system’s expansion.



↑ **Giving Students Choices:** Development is all about giving people choices in their lives. Such choices are particularly important for the very young when some poorly made choices can result in irreversible decisions and outcomes. It is for this reason that so much emphasis is placed on career counseling in a New Generation School. In the picture above, a counselor does a presentation for students on how to approach ‘life planning’ issues. Such events are quite common in NGS and ensure that all students no matter their level of academic performance have access to advice about their life choices from the beginning to the end of their schooling experience.



The picture to the right gives some sense of the system counselors use to ensure easy access to counseling services among all students. ↗

¹⁶ A ‘school in a school’ methodology was employed at Preah Sisovath HS because MoEYS saw this school as strategically important, given its status as the oldest school in Cambodia. Thus, the Ministry accepted the risks of emplacing a New Generation School in an environment in which there was fierce opposition. But this was an exceptional case. Happily, the MoEYS appears to have succeeded in its strategy although the school remains divided across two separate administrations.

ANNEX 1: Indicator Reporting Table for MoEYS/MoEF (Updated 2022)

Target	Means of Verification	Risks & Assumptions	Achievement to Date											
Output 1: Implementation of Expanded Investment Planning at 5 Existing NGS Sites (Secondary) and 3 Existing Primary School Sites)														
Indicator 1.1: Establishment of 5 New Generation Schools at Secondary Level (MoEYS-supported only) by 2019.	<ul style="list-style-type: none"> Project Reports 	<ul style="list-style-type: none"> School managers, teachers, and local communities demonstrate commitment to supporting the principles of NGS implementation. 	<ul style="list-style-type: none"> Achieved 1. Sisovath HS (in operation) 2. Hun Sen Kampong Cham HS (in operation) 3. Prek Leap HS (in operation) 4. Prek Anchanh HS (in operation) 5. Peam Chikong HS (in operation) 6. Kok Pring Jr. HS (in operation)¹⁷ 											
Indicator 1.2: Three different NGS Models are developed and successfully piloted by 2018	<ul style="list-style-type: none"> Project Reports 	<ul style="list-style-type: none"> The prototype models developed by KAPE are feasible and relevant to the Cambodian context. 	<ul style="list-style-type: none"> Achieved: • New School Prototype (Kampong Cham – 2 schools) • School in a School Prototype (Phnom Penh – 1 school) • Whole School Prototype (Phnom Penh – 1; Kandal – 1; Kampong Cham – 2; Svay Rieng – 2; and Kampong Speu – 1) 											
Indicator 1.3: Accreditation of 6 New Generation Schools at Secondary Level within the period 2016-2021.	<ul style="list-style-type: none"> Accreditation Report Scores 	<ul style="list-style-type: none"> The Accreditation Subcommittee can administer accreditation protocol tools effectively and reliably. 	<ul style="list-style-type: none"> Achieved: 6 out of 6 secondary schools currently accredited 1. Sisovath HS (Accredited in 2017, 2018, 2019, 2020, 2021 &2022) 2. Hun Sen Kampong Cham HS (Accredited in 2017, 2018, 2019, 2020, 2021 &2022) 3. Demonstration School of Kampong Cham (Accredited in 2019, 2020,2021 &2022) (Primary Level) 4. Prek Leap HS (Accredited in 2021, 2022) 5. Prek Anchanh HS (Accredited in 2021, 2022) 6. Kok Pring Jr. HS (Accredited in 2019, 2020, 2021 &2022)¹⁸ 7. Svay Prahut PS (Accredited in 2020, 2021 &2022) (Primary Level) 8. Peam Chikong HS (2022) 9. Akhea Mahasei PS (2022) (Primary Level) 10. Angkor Ban PS (2022) (Primary Level) – Accreditation Declined 											
Indicator 1.4: At least 95% of teachers each year are compliant with Teacher Development Framework expectations including the completion of Career Path Plans each year.	<ul style="list-style-type: none"> Classroom observation results Teacher conference records Quarterly Reports 	<ul style="list-style-type: none"> Teachers are motivated to change their learning styles to accommodate the use of new pedagogies in their teaching 	<ul style="list-style-type: none"> Achieved for 2017, 2018, 2019, 2020, 2021, and 2022 <table border="1"> <thead> <tr> <th rowspan="2">School (2021)</th> <th colspan="3">Secondary School Level</th> </tr> <tr> <th>Total Teachers</th> <th>Teachers Completing Career Path Plans</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Preah Sisovath HS</td> <td>70</td> <td>70</td> <td>100%</td> </tr> </tbody> </table>	School (2021)	Secondary School Level			Total Teachers	Teachers Completing Career Path Plans	%	Preah Sisovath HS	70	70	100%
School (2021)	Secondary School Level													
	Total Teachers	Teachers Completing Career Path Plans	%											
Preah Sisovath HS	70	70	100%											

¹⁷ Funded by Child Fund.

¹⁸ Ibid

Target	Means of Verification	Risks & Assumptions	Achievement to Date																																																																							
			Hun Sen Kg Cham HS	30	30	100%																																																																				
			Prek Leap HS	72	71	99%																																																																				
			Prek Anchanh HS	68	66	97%																																																																				
			Peam Chikorng HS	50	48	96%																																																																				
			Total	290	285	98%																																																																				
<p>Indicator 1.5: Bac II Exam Performance exceeds National Average each year.</p>	<ul style="list-style-type: none"> Test Score Results 	<ul style="list-style-type: none"> The design of questions on the Bac II Examination captures the higher order thinking skills that teachers in NGS sites are focused on teaching. 	<p>Achieved for 2018</p> <ul style="list-style-type: none"> Total Pass Rate for NGS: 84% <p>Achieved for 2019</p> <ul style="list-style-type: none"> Total Pass Rate for NGS: 91% <p>Cancelled for 2020</p> <ul style="list-style-type: none"> Bac II Examination cancelled in 2020 due to Covid19 Pandemic <p>Achieved for 2021:</p> <ul style="list-style-type: none"> Total Pass Rate for NGS: 82% <p>Achieved for 2022</p> <ul style="list-style-type: none"> Total Pass Rate for NGS: 82% 																																																																							
<p>Indicator 1.6: A total of 227 renovated NGS facilities are completed by the end of 2019 including NGS Classrooms, Science Labs, ICT Labs, etc.</p>	<ul style="list-style-type: none"> Site Visit Reports Annual Reports 	<ul style="list-style-type: none"> Funds are released on time in order to hire contractors according to procurement guidelines and complete the work in a timely manner. Contractors can follow the specifications for new facilities that are modern and of high quality. 	<ul style="list-style-type: none"> Achieved: 104% of planned facilities completed by 2021. <p style="text-align: center;"><i>Proposed & Completed Facilities in NGS Sites, FY2016 to FY2021</i></p> <table border="1" data-bbox="1451 847 2063 1378"> <thead> <tr> <th>Investment Area</th> <th>Number Proposed 2016-21</th> <th>Number Established 2016-21</th> <th>%</th> </tr> </thead> <tbody> <tr> <td colspan="4">Secondary School Sector (5 schools)</td> </tr> <tr> <td>NGS Classrooms</td> <td>94</td> <td>91</td> <td>97%</td> </tr> <tr> <td>Science Labs</td> <td>41</td> <td>49</td> <td>120%</td> </tr> <tr> <td>ICT Labs*</td> <td>13</td> <td>14</td> <td>108%</td> </tr> <tr> <td>21st Century Libraries*</td> <td>5</td> <td>5</td> <td>100%</td> </tr> <tr> <td>Auditorium</td> <td>5</td> <td>4</td> <td>80%</td> </tr> <tr> <td>Office/Meeting/Faculty Rooms</td> <td>13</td> <td>18</td> <td>138%</td> </tr> <tr> <td>Canteen*</td> <td>5</td> <td>2</td> <td>40%</td> </tr> <tr> <td>Student Clinic*</td> <td>5</td> <td>4</td> <td>80%</td> </tr> <tr> <td>Youth Centers*</td> <td>5</td> <td>5</td> <td>100%</td> </tr> <tr> <td>Total Facilities</td> <td>186</td> <td>192</td> <td>103%</td> </tr> <tr> <td colspan="4">Primary School Sector (3 schools)</td> </tr> <tr> <td>NGS Classrooms</td> <td>45</td> <td>52</td> <td>116%</td> </tr> <tr> <td>Science Labs</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>ICT Labs</td> <td>2</td> <td>2</td> <td>100%</td> </tr> <tr> <td>21st Century Libraries</td> <td>2</td> <td>2</td> <td>100%</td> </tr> </tbody> </table>				Investment Area	Number Proposed 2016-21	Number Established 2016-21	%	Secondary School Sector (5 schools)				NGS Classrooms	94	91	97%	Science Labs	41	49	120%	ICT Labs*	13	14	108%	21 st Century Libraries*	5	5	100%	Auditorium	5	4	80%	Office/Meeting/Faculty Rooms	13	18	138%	Canteen*	5	2	40%	Student Clinic*	5	4	80%	Youth Centers*	5	5	100%	Total Facilities	186	192	103%	Primary School Sector (3 schools)				NGS Classrooms	45	52	116%	Science Labs	0	0	0%	ICT Labs	2	2	100%	21 st Century Libraries	2	2	100%
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<p>Indicator 1.7: Documentation of New School Architecture Designs is completed by 2019 to facilitate replication by other agencies.</p>	<ul style="list-style-type: none"> Manual is available for review 	<ul style="list-style-type: none"> The physical design manual can capture the basic specifications for new school designs while allowing flexibility to adapt these to different locations. 	<ul style="list-style-type: none"> Achieved/Completed: Document approved and published by MoEYS 																																																																																																												
<p>Indicator 1.8: Critical Thinking Test Scores among students at all schools show a statistically significant improvement from baseline scores by the end of Year 4.</p>	<ul style="list-style-type: none"> Test score results 	<ul style="list-style-type: none"> Tests are administered in a way that ensures valid and reliable assessment 	<ul style="list-style-type: none"> Achieved: Post-test scores improved from baseline <table border="1" data-bbox="1326 703 2051 1262"> <thead> <tr> <th>School</th> <th>Criteria</th> <th>Figural Series</th> <th>Logical Sequencing</th> <th>Classification</th> <th>Analogies</th> <th>Concept Analysis</th> <th>Maze</th> <th>Text Analysis</th> <th>Total Mean</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Preah Sisovath HS</td> <td>(Baseline)</td> <td>79%</td> <td>47%</td> <td>63%</td> <td>65%</td> <td>51%</td> <td>55%</td> <td>47%</td> <td>62%</td> </tr> <tr> <td>(Post-test)</td> <td>80%</td> <td>50%</td> <td>57%</td> <td>60%</td> <td>49%</td> <td>72%</td> <td>55%</td> <td>57%</td> </tr> <tr> <td rowspan="2">HS Kg Cham HS</td> <td>(Baseline)</td> <td>63%</td> <td>41%</td> <td>56%</td> <td>55%</td> <td>49%</td> <td>37%</td> <td>38%</td> <td>50%</td> </tr> <tr> <td>(Post-test)</td> <td>71%</td> <td>52%</td> <td>54%</td> <td>60%</td> <td>32%</td> <td>58%</td> <td>48%</td> <td>53%</td> </tr> <tr> <td rowspan="2">Prek Leap HS</td> <td>(Baseline)</td> <td>57%</td> <td>41%</td> <td>54%</td> <td>50%</td> <td>52%</td> <td>32%</td> <td>29%</td> <td>47%</td> </tr> <tr> <td>(Post-test)</td> <td>69%</td> <td>54%</td> <td>53%</td> <td>56%</td> <td>32%</td> <td>58%</td> <td>44%</td> <td>51%</td> </tr> <tr> <td rowspan="2">Prek An-chan HS</td> <td>(Baseline)</td> <td>52%</td> <td>43%</td> <td>56%</td> <td>52%</td> <td>52%</td> <td>32%</td> <td>35%</td> <td>48%</td> </tr> <tr> <td>(Post-test)</td> <td>63%</td> <td>49%</td> <td>51%</td> <td>32%</td> <td>29%</td> <td>59%</td> <td>46%</td> <td>49%</td> </tr> <tr> <td rowspan="2">Peam Chikang HS</td> <td>(Baseline)</td> <td>52%</td> <td>40%</td> <td>49%</td> <td>54%</td> <td>45%</td> <td>31%</td> <td>27%</td> <td>45%</td> </tr> <tr> <td>(Post-test)</td> <td>59%</td> <td>47%</td> <td>50%</td> <td>53%</td> <td>34%</td> <td>52%</td> <td>44%</td> <td>48%</td> </tr> </tbody> </table> <p data-bbox="1326 1262 1912 1289">*Total Mean difference is statistically significant at p=.05</p>				School	Criteria	Figural Series	Logical Sequencing	Classification	Analogies	Concept Analysis	Maze	Text Analysis	Total Mean	Preah Sisovath HS	(Baseline)	79%	47%	63%	65%	51%	55%	47%	62%	(Post-test)	80%	50%	57%	60%	49%	72%	55%	57%	HS Kg Cham HS	(Baseline)	63%	41%	56%	55%	49%	37%	38%	50%	(Post-test)	71%	52%	54%	60%	32%	58%	48%	53%	Prek Leap HS	(Baseline)	57%	41%	54%	50%	52%	32%	29%	47%	(Post-test)	69%	54%	53%	56%	32%	58%	44%	51%	Prek An-chan HS	(Baseline)	52%	43%	56%	52%	52%	32%	35%	48%	(Post-test)	63%	49%	51%	32%	29%	59%	46%	49%	Peam Chikang HS	(Baseline)	52%	40%	49%	54%	45%	31%	27%	45%	(Post-test)	59%	47%	50%	53%	34%	52%	44%	48%
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<p>Indicator 1.9: ICT labs at all schools meet standardized criteria for satisfactory operation or better each year.</p>	<ul style="list-style-type: none"> Survey results based on agreed governance principles 	<ul style="list-style-type: none"> Stakeholders are willing to change their attitudes and habits to enable improved governance 	<ul style="list-style-type: none"> Achieved for 2022 (83% Performance Score) <table border="1"> <thead> <tr> <th>School</th> <th>General Admin</th> <th>Curriculum & Teaching</th> <th>Student Learning</th> <th>Lab Maintenance</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Preah Sisovath HS</td> <td>90%</td> <td>91%</td> <td>80%</td> <td>100%</td> <td>90%</td> </tr> <tr> <td>Hun Sen Kg Cham HS</td> <td>80%</td> <td>83%</td> <td>80%</td> <td>100%</td> <td>85%</td> </tr> <tr> <td>Prek Anchanh HS</td> <td>80%</td> <td>75%</td> <td>70%</td> <td>100%</td> <td>80%</td> </tr> <tr> <td>Prek Leap HS</td> <td>90%</td> <td>83%</td> <td>80%</td> <td>100%</td> <td>88%</td> </tr> <tr> <td>Hun Sen Peamchikrong HS</td> <td>80%</td> <td>83%</td> <td>70%</td> <td>100%</td> <td>83%</td> </tr> <tr> <td>Average</td> <td>84%</td> <td>83%</td> <td>76%</td> <td>100%</td> <td>85%</td> </tr> </tbody> </table> <p>Note: Minimum Performance = 65%</p>						School	General Admin	Curriculum & Teaching	Student Learning	Lab Maintenance	Total	Preah Sisovath HS	90%	91%	80%	100%	90%	Hun Sen Kg Cham HS	80%	83%	80%	100%	85%	Prek Anchanh HS	80%	75%	70%	100%	80%	Prek Leap HS	90%	83%	80%	100%	88%	Hun Sen Peamchikrong HS	80%	83%	70%	100%	83%	Average	84%	83%	76%	100%	85%
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<p>Indicator 1.10: ICT in Education proficiency among teachers at each school improves from baseline scores.</p>	<ul style="list-style-type: none"> Survey results Quarterly Reports 	<ul style="list-style-type: none"> Teachers have the prerequisite skills to understand basic concepts of ICT literacy Teachers are motivated to change their learning styles to accommodate the use of ICT in teaching 	<ul style="list-style-type: none"> Achieved for 2022 All schools improved their scores from baseline by about 11%. 76% of teachers describe the frequency of their use of ICT in instruction as medium to high 																																															
<p>Indicator 1.11: Dropout rates at all schools do not exceed 5% each year.</p>	<ul style="list-style-type: none"> Educational Statistics Reports 	<ul style="list-style-type: none"> Students and parents are motivated to stay enrolled to benefit from the high investment environment created by MoEYS. 	<ul style="list-style-type: none"> Achieved: Dropout reported to be 1.3% at secondary level compared to national rate of 18% at LSS and 8% at USS. <table border="1"> <thead> <tr> <th>School</th> <th>Total Students/ Female</th> <th>Total Dropouts</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Preah Sisovath HS</td> <td>1377/675</td> <td>13</td> <td>1%</td> </tr> <tr> <td>Hun Sen Kg Cham HS</td> <td>509/271</td> <td>6</td> <td>1%</td> </tr> <tr> <td>Prek Leap HS</td> <td>1132/556</td> <td>18</td> <td>1.5%</td> </tr> <tr> <td>Prek Anchanh HS</td> <td>1207/652</td> <td>26</td> <td>2%</td> </tr> <tr> <td>Peam Chikong HS</td> <td>1259/459</td> <td>24</td> <td>1%</td> </tr> <tr> <td>Total</td> <td>5,484/2,613</td> <td>87</td> <td>1.3%</td> </tr> </tbody> </table>						School	Total Students/ Female	Total Dropouts	%	Preah Sisovath HS	1377/675	13	1%	Hun Sen Kg Cham HS	509/271	6	1%	Prek Leap HS	1132/556	18	1.5%	Prek Anchanh HS	1207/652	26	2%	Peam Chikong HS	1259/459	24	1%	Total	5,484/2,613	87	1.3%														
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<p>Indicator 1.12: At least 80% of all students graduating Grade 12 enroll in post-secondary school studies each year.</p>	<ul style="list-style-type: none"> School Tracking Reports 	<ul style="list-style-type: none"> A majority of NGS students are more interested in pursuing further studies than immediately entering the workforce. 	<p>Achieved: 91% of Grade 12 students transition to post-secondary level institutions</p> <table border="1"> <thead> <tr> <th>School</th> <th>Total Students</th> <th>Total Students Entering Post-Secondary Studies</th> <th>%</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						School	Total Students	Total Students Entering Post-Secondary Studies	%																																						
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Target	Means of Verification	Risks & Assumptions	Achievement to Date			
		<ul style="list-style-type: none"> A majority of NGS students have sufficient resources to pursue post-secondary school studies. 	Preah Sisovath HS	217	198	91%
			Hun Sen Kg Cham HS	56	53	95%
			Prek Leap HS	144	121	84%
			Prek Anchan HS	128	92	72%
			Kourk Pring HS	45	34	76%
			Total	590	498	84%
Output 2: Completion of a successful NGS National Survey						
<p>Indicator 2.1: A national survey of schools in at least 10 provinces or more identifies a minimum of 10 potential sites for NGS expansion using preferred criteria that are associated with success.</p>	<ul style="list-style-type: none"> Completed Survey Report 	<ul style="list-style-type: none"> There are a sufficient number of schools in other provinces whose contexts support replication of the NGS model POEs are cooperative and supportive in identifying suitable locations for NGS replication. 	<ul style="list-style-type: none"> Achieved since 2016 			
Output 3: Development of a National NGS Framework & Social Equity Fund with replication in at least 5 new sites						
<p>Indicator 3.1: An implementation framework governing the operation of a Social Equity Fund designed to promote the proliferation of New Generation Schools is completed by 2018.</p>	<ul style="list-style-type: none"> Operational Guidelines Document Quarterly Report 	<ul style="list-style-type: none"> Stakeholders can agree on a common framework for NGS replication MoEYS has available funds to resource a Social Equity Fund 	<ul style="list-style-type: none"> Achieved: Social Equity Framework has been incorporated into NGS Operational Guidelines and are pending approval. 			
<p>Indicator 3.2: An accreditation process is in place including the establishment of an Accreditation Subcommittee and the official issue of NGS certifications.</p>	<ul style="list-style-type: none"> Accreditation Visit Reports with Recommendations Certifications 	<ul style="list-style-type: none"> The Accreditation Subcommittee acts as an independent and neutral body capable of enforcing NGS Standards. 	<ul style="list-style-type: none"> Achieved: Accreditation Protocols developed and implemented in 2016 for the first time. 			
<p>Indicator 3.3: A New Generation School Policy Document is developed and approved by MoEYS by 2016.</p>	<ul style="list-style-type: none"> Policy document review 	<ul style="list-style-type: none"> All stakeholders can agree on the content outlined in the Policy Document 	<ul style="list-style-type: none"> Achieved: Policy approved by Minister in 2016 			
<p>Indicator 3.4: A New Generation School Operational Guidelines Policy Manual is developed and approved by MoEYS by 2019</p>	<ul style="list-style-type: none"> Policy document review 	<ul style="list-style-type: none"> All stakeholders can agree on the content outlined in the Policy Document 	<ul style="list-style-type: none"> Achieved: Manual completed in and signed by Minister. 			

Target	Means of Verification	Risks & Assumptions	Achievement to Date
Indicator 3.5: Development of a Teacher Development Framework is completed by 2017	<ul style="list-style-type: none"> Policy document review 	<ul style="list-style-type: none"> All stakeholders can agree on the content outlined in the Policy Document 	<ul style="list-style-type: none"> Achieved since 2017
Indicator 3.6: An operational (i.e., meets four times per year) NGS Network is in place that comprises representatives of all certified NGS sites along with approved statutes.	<ul style="list-style-type: none"> Standards of Performance as outlined in Statutes Meeting Minutes 	<ul style="list-style-type: none"> Network meetings can be organized quarterly with high attendance of all actors 	<ul style="list-style-type: none"> Achieved: NGS Network in place since 2017 and meeting quarterly.
Indicator 3.7: Operational Oversight Boards are established at National Level as well as at Provincial Level in Kampong Cham, Kandal, Phnom Penh, Kampong Speu, and Svay Rieng.	<ul style="list-style-type: none"> Oversight Board Performance Checklist 	<ul style="list-style-type: none"> The Boards are able to meet on a regular basis to discuss issues of relevance to the school 	<ul style="list-style-type: none"> Achieved National Board: Newly appointed in 2017 5 Provincial Boards appointed and in operation <ul style="list-style-type: none"> Phnom Penh (established) Kampong Cham (established) Svay Rieng (established) Kandal (established) Kampong Speu (established)

ANNEX 2: NGS Retreat Program

New Generation School Retreat – Addressing Challenges for the Future 16-17 June 2022 – Hun Sen Kampong Cham HS (Kampong Cham Town)

Goal: The Goal of this Retreat is to review the status of New Generation School Reforms to date, identify challenges going forward, and to identify pathways for future expansion (if any).

Time	Topics	Presenters
DAY 1	OVERVIEW OF PROGRESS & CHALLENGES	
8:00 AM	Welcome & Introduction of the Retreat Agenda	<ul style="list-style-type: none"> Master of Ceremony
8:05 AM	National Anthem	<ul style="list-style-type: none"> All
8:10 AM	<i>Opening Remarks by H.E. Dr. Hang Chuon Naron, Minister for Education, Youth, & Sport</i>	<ul style="list-style-type: none"> H.E. Dr. Hang Chuon Naron, Minister of MoEYS
8:30 AM	<p><i>NGS as a Strategic Vehicle for Reform: The Big Picture</i></p> <ul style="list-style-type: none"> The Two-Track Approach to Educational Reform Learning the Lessons of Child Friendly School Reforms Minimum versus Maximal Standards <p><i>Question & Answer</i></p>	<ul style="list-style-type: none"> Kurt Bredenberg, NGS Adviser
9:00 AM	<p><i>General Update on Progress, Current Status, & Achievements</i></p> <ul style="list-style-type: none"> Current Scope, Investment, & Beneficiaries Evolving Structure of NGS: National & Provincial Boards, NGS Central Office, NGS Accreditation Office, NGPRC Key Achievements: Academic Achievements, School Efficiency, School Accreditation, Publications, & Infrastructure Emplacement Emerging Role of NGS as a Platform for MoEYS to Promote Educational Innovation (e.g., Coding, Robotics, Online Learning, Blended Learning, etc.) Progress Towards Financial & Technical Sustainability <p><i>Question & Answer</i></p>	<ul style="list-style-type: none"> Kurt Bredenberg, NGS Adviser Mr. UI Run, NGS Operations Manager
9:45	<i>Coffee Break</i>	
10:00 AM	<p><i>Update on NGS Accreditation</i></p> <ul style="list-style-type: none"> Description of the Accreditation Process and Recent Changes Status of Accredited and Unaccredited Schools Key Challenges: Challenges to the NGS Brand, Staffing, Independence, etc. Vision for an Independent NGS Accreditation Office <p><i>Question & Answer</i></p>	<ul style="list-style-type: none"> Mr. Phann Bunnath, NGS Accreditation Coordinator
10:45 AM	<p><i>In-depth Review of Challenges Facing New Generation Schools</i></p> <ul style="list-style-type: none"> Continuing Grade Coverage Expansion While Budget is Frozen Absorbing Teachers into the NGS System Who Have Resisted Collaboration and the Danger of Dilution of NGS Standards (e.g., Prek Leap HS) Phase-out of Child Fund Support to New Generation Schools in Svay Rieng Province Impact of Covid19 School Closures on Exam Performance 	<ul style="list-style-type: none"> Mr. UI Run, NGS Operations Manager Mr. Hin Sim Huon, KAPE Vice Director

	<ul style="list-style-type: none"> • Need for Continuing Government Support to Enable Poorer Students to Attend New Generation Schools • Formalizing the Administrative Structure to Maintain the New Generation School System (esp. Accreditation Office) • Some School Management Issues as an Obstacle to Accreditation • Stabilizing Personnel Appointments to New Generation Schools • NGS Brain Drain <p><i>Question & Answer</i></p>	
12:00 – 2:00 PM	Lunch	
2:00 PM	Challenges (Cont.)	<ul style="list-style-type: none"> • Mr. UI Run, NGS Operations Manager • Mr. Hin Sim Huon, KAPE Vice Director
3:00 PM	Coffee Break	<ul style="list-style-type: none"> •
3:15 PM	<p>Evolving Role of the New Generation Pedagogical Research Center (NGPRC)</p> <ul style="list-style-type: none"> • Current Status & Achievements • Technical Support to NIE and Practice Schools • Emerging Strategies for Mentor Placement (e.g., School-based, SRS-based, TTI-based, Project-based, etc.) • Growing Need for Expanded to Research Capabilities • Challenges <p><i>Question & Answer</i></p>	<ul style="list-style-type: none"> • Dr. Chan Roath, NGPRC Manager • Dr. Sun Somara, Training Coordinator (NGPRC)
4:15 – 4:30 PM	<p>Wrap-up of DAY 1</p> <ul style="list-style-type: none"> • General Comments and Reactions to the Day's Presentations 	<ul style="list-style-type: none"> • H.E. Lao Chao Vanna, National NGS Board Chairperson
DAY 2	PATHWAYS FOR FUTURE EXPANSION	
8:00 AM	Review of New Generation School Selection Protocols	<ul style="list-style-type: none"> • Kurt Bredenber, NGS Adviser
8:30 AM	<p>Inclusion of NGS in CamStepUp Project under ADB</p> <ul style="list-style-type: none"> • Proposed Scope of Replication and Current Status • Ability to Replicate Pilot Conditions of Implementation (e.g., Integrated Procurement, Teacher Incentives, SRS-based Mentors, etc.) 	<ul style="list-style-type: none"> • Mr. UI Run, NGS Operations Manager
9:30 AM	Coffee Break	
9:45 AM	<p>Funding of NGS through Agence Français de Développement</p> <ul style="list-style-type: none"> • Proposed Scope of Replication and Current Status • Ability to Replicate Pilot Conditions of Implementation 	
10:30 AM	General Discussion and Clarification of the Way Forward	
11:15 AM	<p>Closure</p> <ul style="list-style-type: none"> • Closing Remarks by H.E. Dr. Hang Chuon Naron 	<ul style="list-style-type: none"> • H.E. Dr. Hang Chuon Naron, Minister of MoEYS
11:30 AM	Adjournment of the Retreat	

ANNEX 3: Cohort Map of Students Being Tested for Critical Thinking Skills

Critical Thinking Test Guidance New Generation Schools

SISOVATH HS

Testing Schedule for Sisovath HS

Academic Year	Baseline	Cohort	Status		Post-test	Cohort	Status
2015-16	Grade 7	1	Completed				
	Grade 10	A	Completed				
2016-17	Grade 7	--	--		--	--	--
	Grade 10	--	--		--	--	--
2017-18	Grade 7	--	--		--	--	--
	Grade 10	--	--		--	--	--
2018-19	Grade 7				Grade 10	1	July 2019
	Grade 10	--	--		Post Grade 12	A	Aborted
2019-20	Grade 7	5	Oct 2019		--	--	--
	Grade 10	--	--		--	--	--
2020-21	Grade 7	6	Oct 2020		--	--	--
	Grade 10				--	--	--
2021-22	Grade 7				Grade 9	5	July 2022
	Grade 10				--	--	--

Cohort Map for Sisovath

Year	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
2015-16	Cohort 1			Cohort A		
2016-17	Cohort 2	Cohort 1		Cohort B	Cohort A	
2017-18	Cohort 3	Cohort 2	Cohort 1	Cohort C	Cohort B	Cohort A
2018-19	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort C	Cohort B
2019-20	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort C
2020-21	Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1
2021-22		Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2
2022-23			Cohort 6	Cohort 5	Cohort 4	Cohort 3
2023-24				Cohort 6	Cohort 5	Cohort 4
2024-25					Cohort 6	Cohort 5
2025-26						Cohort 6

PREK LEAP HS

Testing Schedule for Prek Leap HS

Academic Year	Baseline	Cohort	Status		Post-test	Cohort	Status
2017-18	Grade 7	--	--		--	--	--
2018-19	Grade 7	--	--		--	--	--
2019-20	Grade 7	3	Nov 2019		--	--	--

			(Completed)			
2020-21	Grade 7	4	Nov 2020		--	--
2021-22	Grade 7	5	Nov 2021		Grade 9	3
2022-23	Grade 7	6	Nov 2022		Grade 9	4

Cohort Map for Prek Leap HS

Year	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
2017-18	Cohort 1	Cohort A				
2018-19	Cohort 2	Cohort 1	Cohort A			
2019-20	Cohort 3	Cohort 2	Cohort 1	Cohort A		
2020-21	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A	
2021-22	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A
2022-23	Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1
2023-24		Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2
2024-25			Cohort 6	Cohort 5	Cohort 4	Cohort 3
2025-26				Cohort 6	Cohort 5	Cohort 4

PREK ANCHANH HS

Testing Schedule for Prek Anchanh HS

Academic Year	Baseline	Cohort	Status		Post-test	Cohort	Status
2017-18	Grade 7	--	--		--	--	--
2018-19	Grade 7	--	--		--	--	--
2019-20	Grade 7	3	Nov 2019		--	--	--
2020-21	Grade 7	4	Nov 2020		--	--	--
2021-22	Grade 7	5	Nov 2021		Grade 9	3	July 2022
2022-23	Grade 7	6	Nov 2022		Grade 9	4	July 2023

Cohort Map for Prek Anchanh

Year	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
2017-18	Cohort 1	Cohort A				
2018-19	Cohort 2	Cohort 1	Cohort A			
2019-20	Cohort 3	Cohort 2	Cohort 1	Cohort A		
2020-21	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A	
2021-22	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A
2022-23	Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1
2023-24		Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2
2024-25			Cohort 6	Cohort 5	Cohort 4	Cohort 3
2025-26				Cohort 6	Cohort 5	Cohort 4

PEAM CHIKONG HS

Testing Schedule for Peam Chikong HS

Academic Year	Baseline	Cohort	Status		Post-test	Cohort	Status
2018-19	Grade 7	--	--		--	--	--

2019-20	Grade 7	2	Nov 2019		--	--	--
2020-21	Grade 7	3	Nov 2020		--	--	--
2021-22	Grade 7	4	Nov 2021		Grade 9	2	July 2022
2022-23	Grade 7	5	Nov 2022		Grade 9	3	July 2023
	Grade 7	6	Nov 2023		Grade 9	4	July 2024

Cohort Map for Peam Chikong HS

Year	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
2018-19	Cohort 1	Cohort A				
2019-20	Cohort 2	Cohort 1	Cohort A			
2020-21	Cohort 3	Cohort 2	Cohort 1	Cohort A		
2021-22	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A	
2022-23	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1	Cohort A
2023-24	Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2	Cohort 1
2024-25		Cohort 6	Cohort 5	Cohort 4	Cohort 3	Cohort 2
2025-26			Cohort 6	Cohort 5	Cohort 4	Cohort 3
				Cohort 6	Cohort 5	Cohort 4

ANNEX 4: Summary Report on the Mentoring Practicum Organized by NGPRC

- ✓ The NGPRC arranged this year's mentoring practicum for three full months from May to July 2022 in three different settings as follows:
 - observing long recorded videos and role-played with a difficult scenario at the center (the 1st two weeks).
 - Mentoring practicum at private school (3rd and 4th week)
 - Mentoring practicum at public schools (from the 5th to 8th week). *In this setting, we rotated all four groups every two weeks. It meant that each group had two weeks in each school. After that, they needed to move to conduct their mentoring practicum in another school.*
- ✓ Sent the mentor-trainees to five different schools (one private school and 4 public schools) as the following:
 - Sovanaphumi School (4 different campuses)
 - Practice Primary School (NIE)
 - Practice High School (NIE)
 - Prek Leap High School—New Generation School
 - Hun Sen Bunnary Chbar Ampov High School
- ✓ **Our experience in private school (Sovannaphumi School)**
 - a. Good points**
 - Most of the teachers cooperated with mentoring practicum very well.
 - Some old and experienced teachers were open-minded to accept and got involved this mentoring practicum.
 - Got a great support and great coordination from school management team.
 - Teachers just experienced and learnt about mentoring; even though some of them may confused it sounded like the inspection.
 - All mentor-trainees and the supervisors had a chance to learn from different school aspects: private sectors and public sectors (normal schools, NGS schools, and resource schools).
 - b. Challenges**
 - Time for pre-observation conference was a little bit short since most of the teachers has a full teaching schedule.
 - Some teachers with a lot of experienced seemed a little bit reluctant to join in this practicum process.
 - Some teachers confused the mentoring program with an inspection program or with a teaching practicum of bachelor's degree plus from NIE.
 - The mentoring practicum at private school was only two weeks; therefore, it was a little bit short time to provide a concrete practice. It means one teacher had only two times mentoring and conference.
 - It seemed very to offer the mentoring at the beginning.
- ✓ **Practicum experience in public schools (Annuwat Primary School (NIE), Annuwat High School (NIE), Prek Leap High School—New Generation School, Hun Sen Bunnary Chbar Ampov High School)**
 - b. Good points**
 - Most of the good points in the public schools were not far different from the private schools.

- We had conducted an orientation workshop for management team and teachers in Prek Leap high School-New Generation School and Hun Sen Bun-rany Chbar Ampov High School (Resource School). As a result, we can reduce some barriers during the process of the mentoring practicum.

c. Challenges

- Some teachers did not understand about the objectives of this mentoring practicum.
 - Sometimes it was very hard to contact or communicate with the teachers.
 - Some teachers submitted the lesson plans late.
 - The worst experience of this mentoring practicum was at the Practice High School of National Institute of Education since the School Director did not cooperate even though we got the official nomination letter to conduct this mentoring practicum from the Director of NIE. As a result, we could conduct only the first group out of four.
 - At Annuwat High School, we did not have an opportunity to conduct the orientation workshop about this mentoring practicum to the school management and teachers since School Director did not cooperate with us.
 - Some teachers confused the mentoring program with an inspection program or with a teaching practicum of bachelor's degree plus from NIE.
 - Mostly we did not have an opportunity to conduct the pre-observation conference since most of the teachers were too busy with their full teaching schedule.
- ✓ After the practicum, we conducted surveys to identify areas for improvement. It appears that:
- We need to be more consistent in the assessment.
 - The mentors want more time in a given school, so that they can establish a better relationship with the mentees and follow up with their progress.