NEW GENERATION SCHOOL
Annual Report
(January-December 2020)

YEAR 5 IMPLEMENTATION

January 2021
PHNOM PENH

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AFD	Agence Francaise de Development
CDDE	Center for Digital and Distance Education
CFS	Child Friendly School
CICME	Cambodia's 1st 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
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
PS	Primary School
PTR	Pupil Teacher Ratio
SBM	School-based Management
SRS	Secondary Resource School
STEM	Science Technology Engineering and Mathematics
TTD	Teacher Training Department
TTO	Thontean Obrom
USE-SDP	Upper Secondary Education – Sector Developmet Program
VNI	Vowel Name Identification
WPM	Words Per Minute

1. EXECUTIVE SUMMARY

GENERAL OVERVIEW: The 2019-20 school year began with great momentum. Coming off of an excellent *Bac II Examination* result towards the end of 2019 and record demand for enrollment in all schools at the start of the new school year, the New Generation School Initiative (NGSI) continued to gradually expand programming in all remaining schools that still had uncovered grades. Secondary school enrollments continued to increase and stood at 4,664 students as the 2020-21 school year began while primary enrollment at NGS sites had reached 2,251 or a total of nearly 7,000 students (6,915 students in all). Unfortunately, the Covid19 crisis caused a near total cessation of activity, as all schools in the Kingdom were closed in March 2020. Schools were closed up until September 2020 when MoEYS allowed a partial re-opening for those students studying for the *Diplome* and *Bac II Examinations* with a full re-opening occurring in November 2020. Thus, school operation during the last six months of the year were intermittent at best.

RECENT ACTIVITIES

Funding Situation: As the month of June 2020 arrived, funds from Ministry of Economy & Finance (MoEF) also arrived, allowing KAPE[1] to repay credits provided by the Franks Family Foundation to keep all operations running smoothly. In this respect, FFF provided over $450,000 in interest-free operating credits to KAPE during the fiscal year to ensure that teacher incentives and salaries were paid on time and ca-

pacity-building activities could also be organized in a timely manner. With the arrival of funds from MoEYS-MoEF, funds were returned to FFF in July 2020 and major investments in school infrastructure renewal began in time for the new school year.

Online Education Programming: Nevertheless, the NGS program was not idle during the closure period of April to September 2020. The NGS Central Office supported schools to move educational activities to an online platform for all students. In this respect, hundreds of lesson videos were produced by teachers in all schools and disseminated through special *YouTube* channels to all students. Schools have been monitoring rates of access to the videos by students electronically and have made detailed reports about the academic progress in all schools.

Continuous Professional Development: NGS programmers also organized some excellent workshops during the year that provided intensive hands-on training to STEM teachers in all secondary schools. STEM teachers were carefully led through more than one hundred experiments at the appropriate grade levels demonstrating the steps in carrying

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[1] MoEYS has contracted KAPE to manage the NGS System with oversight by the NGS National Oversight Board.

them out and the principles that they exemplify. School-based mentors will help to follow up on these workshops to ensure that they lead to high quality learning in the STEM labs provided by MoEYS.

Question Bank Establishment: At the same time, program planners moved forward vigorously with efforts to set up an electronic Question Bank that can be used in all subjects and across all grades. The Question Bank includes facilities for the analysis of each test item to ensure that it is functioning properly and has proper levels of 'difficulty' and 'discrimination' for the purpose for which it is to be used (e.g., summative assessment, formative assessment, etc.).

School Management System Establishment: While setting up the electronic Question Bank, NGS programmers also started the expansion of a pilot started last year to standardize automated school management software across all schools. These efforts build on an agreement with a leading tech start-up company called *Sala,* which was selected to develop the software needed for this purpose. All managers were fully trained in using this software and it became fully operational when schools re-opened for the new school year.

New NGS Website: The NGS Program also moved quickly to set up a website platform for New Generation Schools that will complement the Facebook Page. Given the increasing profile of NGS reforms both domestically and internationally, it makes sense to develop a free-standing website platform for this purpose. Stakeholders will now be able to apply for NGS admission on this site, access technical documents, learn about the latest NGS news, and other matters that are currently done manually. The platform became partially operational at the end of the current fiscal year and will be fully operationally by May 2021.

New Publications: In parallel with the efforts described above, NGS programmers have also used the period of school closure to move forward with the completion of several new publications in order to better document the process of implementing NGS reforms. New publications cover such topics as Library Development, New Pedagogy Frameworks, Student Assessment, New Generation Preschools, and Architectural Designs for 21st Century Schools. MoEYS and KAPE will soon be systematizing all NGS publications so that they can be easily accessed online.

Graduation of the First Cohort of Mentors from the New Generation Pedagogical Research Center: Another major event and milestone during the year relates to the graduation and posting of 25 mentors who completed a Master's Degree of Education with a specialization in Mentoring at the *New Generation Pedagogical Research Center.* This is the first cohort to complete the Master's Degree program at NGPRC (and indeed the first Master's Degree candidates to graduate from the National Institute of Education) and constitutes a major first step in achieving the long-awaited establishment of school-based mentors in New Generation Schools. The placement of 3 to 4 mentors per New Generation School is intended to institutionalize continuous professional development for NGS teachers and reduce technical reliance on KAPE. All mentors were posted to NGS sites in September 2020 and are now working within a well-defined Mentoring Framework developed by KAPE for this purpose.

International Recognition & Good Press for Cambodian Education: It should also be noted that the New Generation School Initiative continues to attract international

attention. In this regard, the program has been showing up in multiple international publications by Springer Press (of Singapore), Harvard University, the Adenauer Foundation, and the World Bank. The program was also recently presented at the *Comparative International Education Society Conference (CIES)* in San Francisco in 2019. Other nations in the region are now showing interest in the model and replication has already started in Lao PDR and Myanmar (with support from the Franks Family Foundation), leading to an interest to send international students to attend the Master's Degree Program (which is taught in English) at the NGPRC at the National Institute of Education. Thus, the New Generation School initiative is not only benefiting Cambodia's education system but is also bringing international praise and recognition to the Kingdom.

Development of a Concept Note to Expand NGS Programming: MoEYS requested KAPE to develop a Concept Note outlining intended planning to expand NGS programming to 15 new sites during the period 2022 to 2027. The Concept Note was completed and submitted to MoEYS for review in December 2020. The expansion will be funded by a loan from the *Agence Francaise de Development.* The expanded program will continue to support existing New Generation Schools as well as the planned 15 new schools. The expanded program will include several new elements including a new (and possibly imported) STEM curriculum designed especially for NGS, a specialized *Bac II Examination* tailored to the needs of the NGS System (that will include lab and ICT components), establishing 5 Techno NGS sites that are based on the E2STEM model established at Yukantor HS in Phnom Penh, and comprehensive support for New Generation Preschools, Primary Schools, and Secondary Schools.

KEY ACHIEVEMENTS: The implementation of New Generation School Reforms has been a bright spot in MoEYS' efforts to improve educational quality. Between 2015 and 2020, MoEYS has invested about $7.4 million in the NGS system for school modernization and capacity-building as well as policy and curriculum development. These schools have not disappointed and have reported very encouraging outcomes on a number of important metrics including very high pass rates on the national *Bac II Examination*, high transition rates to university, very low dropout rates, an accelerating rate of school accreditation, excellent EGRA scores on reading tests, hundreds of student academic awards (both national and international), and high professional standards among teachers. Many of these indicators move beyond test scores and demonstrate the ability of students who study in these schools to compete successfully in international academic competitions and evince high rates of transition to university. In addition, learning appears to have broken out of

an exam-driven mode leading to a profusion of project work completed by students. For example, in 2019, students enrolled in secondary New Generation Schools completed 490 group projects on topics of their own choosing. This was a significant breakthrough in the culture of learning, which is still very much exam-driven.

KEY CHALLENGES

1. *The Extended Closure of Schools:* The closure of schools due to the Covid19 crisis has been quite disruptive to NGS programming this year. In addition to regular classes, the program had to cease all programming relating to such major events as Parents' Night Shows and associated project work, preparation for the *Bac II Examination,* participation in international competitions, life skills activities, exposure visits, student club activities, accreditation visits, and other activities. All of this had the effect of greatly setting back students' learning, particularly for Grade 12 students who are most concerned about their transition into a tertiary institution. As the fiscal year ended, schools re-opened and things appeared to be returning back to normal, but the danger of additional closures remains a real danger as the Covid19 3rd wave draws closer.

2. *Increasing Investment in Online Education:* As noted above, most New Generation Schools have sought to shift their instruction to online channels during the pandemic. However, the lack of internet and the poor penetration of mobile devices in more rural areas such as Peam Chikong HS in Kampong Cham and Kok Pring HS in Svay Rieng pose more of a problem. These obstacles have greatly impacted online learning in these schools already.

3. *The Status of Accredited but Unsupported Schools:* There continue to be several schools in the NGS system that have been accredited but which are still not receiving any direct support from MoEYS. This includes Kok Pring HS in Svay Rieng Province and the Demonstration School (a primary school) in Kampong Cham Province. Both schools achieved their accreditation in 2019, which was a major milestone in their development. Nevertheless, according to MoEYS' New Generation School Policy, any accredited NGS institution is entitled to direct support from the government, at least for those students whose parents are unable to pay any voluntary support fees through the *Social Equity Fund* concept. However, within the context of frozen levels of funding for NGS programming, it has not been possible to adhere to this provision in the policy.

4. *Teacher Resistance to Joining NGS at Prek Leap, Prek Anchanh, & Peam Chikong HS:* As Prek Leap and Prek Anchanh High Schools prepare to expand to Grade 11 in the 2020-21 academic year, they will be encountering a hard-core group of teachers at the higher grade levels who are quite wedded to a 'rien kua' mentality as the *raison d'etre* of their teaching. Outreach to these teachers to voluntarily join the program has so far not been very successful. In this respect, only 4% of these teachers at Prek Leap have volunteered to join the program while 13% of teachers at Prek Anchanh have volunteered to do so. A similar situation prevails at Peam Chikong HS, as it expands to Grade 10. The primary reason for these teachers' unwillingness to join the growing New Generation School program is that NGS Policy Guidelines require them to give up their private 'rien kua' classes, which they refuse to do, even though they would receive an incentive to partially compensate them.

5. ***Misrepresentation of NGS Unit Costs:*** Recurrent unit costs are declining at accredited schools within the New Generation School System, particularly as parents start to pick up more and more of the costs. Nevertheless, some development partners have recently issued publications that maintain the fiction that New Generation Schools entail continuously high unit costs throughout their implementation, when in fact these are declining in most schools where capital expenditures have been completed. The fiction that New Generation Schools are too expensive to replicate is one of the primary arguments against additional investment to expand the model to other locations. It is, therefore, important for NGS advocates to push back against this misinformation and better inform development partners and members of the general public about the true nature of the unit costs entailed by this educational reform.

6. ***Sustaining NGS Financial Operations without External Credits:*** Each year, KAPE arranges intermediate credits from the Franks Family Foundation to keep programming running without interruption during the period January to May of each year. During this time, the NGS grant that KAPE receives from MoEYS to run the program is being processed and is generally released in June of each year. Usually, KAPE needs at least $400,000 or more to sustain operations during this period (at current levels of programming). The credits provided by FFF are interest-free and are returned to the Foundation in the UK when government funds arrive. This arrangement is now in its fourth year. It is clear that the Foundation will not be able to provide such support indefinitely, requiring the NGS system to find alternative arrangements to sustain operations during the long-period when the release of government funds is being processed.

2. BACKGROUND

2.1 Historical Evolution of NGS Reforms

New Generation School Reforms began in 2015 and have now reached five full years of implementation (2016-20). Throughout this period, MoEYS has worked closely with development partners such as KAPE, the Franks Family Foundation, and Child Fund to implement these reforms. Although these reforms first started with only two schools, the reforms have now evolved into a self-sustaining system with 11 schools governed by multiple institutions created to oversee operations. These institutions include a National Oversight Board, Provincial Oversight Boards, the NGS Central Office, and the New Generation Pedagogical Research Center that trains personnel working in the NGS System and conducts research to ensure that programming is built on well-researched evidence.

Table 2.1: Investment in New Generation Schools at All Levels, 2015-20

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	$--[2]	$77,000	$0	**$1,494,00**	**6**
2020	$1,417,000	$--[3]	$77,000	$0	**$1,494,000**	**6**
Total	**$6,250,000**	**$300,000**	**$554,000**	**$198,000**	**$7,302,000**	**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
Total	**$836,000**	**--**	**--**	**--**	**$836,000**	**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
Total	**$326,000**	**$15,000**	**$30,000**	**--**	**$371,000**	**1**
GRAND TOTAL	**$7,412,000**	**$315,000**	**$584,000**	**$198,000**	**$8,509,000**	**11**

*Includes one school supported by Child Fund; **Includes two self-supporting primary schools

Educational reforms relating to charter school establishment started with secondary schools but in 2017 were extended to the primary school sector, as well. In 2019, the MoEYS also made a tactical decision to establish a training and research Center on the

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[2] Does not include $272,000 interest-free loan to programming while government-funding was processed.

[3] Does not include $330,000 interest-free loan to programming while government-funding was processed.

campus of the *National Institute of Education* that will intensively train teacher mentors working in New Generation School sites. The establishment of this Center, known as the *New Generation Pedagogical Research Center,* will greatly facilitate the expansion of New Generation School reforms by enhancing the availability of human resources. The first cohort of mentors graduated in August 2020 and have 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 and focus on mentoring as their primary duty (see Sections 3.22 to 3.25).

By the end of 2020, MoEYS and its partners had invested $US 8.509 million in New Generation School institutions since 2015 using KAPE as the primary implementer (see Table 2.1). The vast majority of this investment has gone to the secondary education sub-sector (86%) followed by the primary sector (10%) and most recently the higher education sector (4%). Total investment includes about $1,097,000 (or 13%) that has so far been invested by private foundations (Franks Family Foundation and Child Fund) through KAPE financial channels. These funds do not include hundreds of thousands of dollars in short-term interest-free loans provided by the Franks Family Foundation to keep programming running smoothly while government funds are being processed. In all, $7.4 million or 87% of all investment has come from government coffers. New Generation Schools now comprise a major part of the National Educational Reform Program of the MoEYS (see Reform #14) and provide a useful model for future investment[4].

2.2 General Overview of Operations during 2020

The 2019-20 school year began with great momentum. Coming off of an excellent *Bac II Examination* result and record demand for enrollment in all schools, the program continued its expansion in four schools at secondary level[5] and one school at primary level.[6] These schools have not yet reached full coverage of all their grade levels. This stands in contrast to NGS sites at Preah Sisovath HS and Hun Sen Kampong HS, which have both reached Grade 12 and are no longer receiving infrastructure investment. Unfortunately, the Covid19 crisis caused a near total cessation of activity, as all schools in the Kingdom were closed on 17 March 2020 and did not fully re-open until 23 November 2020. Thus, the school year was effectively shortened from 10 months to about 6 months (November 2019 to December 2020 with a period of closure from late March to mid-November 2020). In spite of these obstacles, the following activities continued to move forward:

> **Online Learning:** The NGS program was not idle during the closure period of April to mid-November 2020. After the closure of all schools, the NGS Central Office moved quickly to support schools to move educational activities online for all students. In this respect, hundreds of lesson videos were produced by teachers in all schools during the year and disseminated through special *YouTube* channels to all students. Schools have been monitoring rates of access to the videos by

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[4] See World Bank (2020). *Cambodia in the Time of Covod19: Special Focus – Teacher Accountability and Student Learning Outcomes,* Phnom Penh: Author.

[5] Prek Leap HS (Phnom Penh), Prek Anchanh HS (Kandal), Peam Chikong HS (Kampong Cham), and Kok Pring HS (the latter of which is supported by Child Fund in Svay Rieng Province).

[6] Akhea Mahasei PS in Kampong Speu.

students electronically and have made detailed reports about the academic progress in all schools (see Section 3.2).

Question Bank Development: At the same time, program planners also moved forward vigorously with efforts to set up an electronic *Question Bank* that can be used in all subjects and across all grades. The Question Bank includes facilities for the analysis of each item to ensure that it is functioning properly and has proper levels of difficulty and discrimination for the purpose for which it is to be used (e.g., formative purposes, summative purposes, etc.). These efforts should greatly increase the validity of tests and strengthen the information base upon which all education decision-making is made. Teachers in all NGS sites have, therefore, not been idle but rather have been highly engaged in both online education and Question Bank development.

School Management System Expansion: While setting up the electronic Question Bank, NGS programmers also started the expansion of a pilot started last year to standardize automated school management software across all schools. These efforts build on an agreement with a leading tech start-up company called *Sala,* which was selected to develop the software needed for this purpose. All managers have now been trained in using this software and it became fully operational when schools re-opened in mid-November 2020.

Question Bank training session for Technical Grade Leaders at all schools at Preah Sisovath HS Auditorium

Development of New NGS Website: In addition, the program moved quickly to set up a website platform for New Generation Schools that complements the Facebook Page that is already currently in use. Given the increasing profile of NGS reforms both domestically and internationally, it makes sense to develop a free-standing website platform, hence the investment that took place during the school year. The platform is now operational and will become fully functional in May 2021 (cf. https://ngs.edu.kh/en/).

New NGS Publications: Alongside the above efforts, NGS programmers used the period of school closure to move forward with the completion of several new publications in order to better document the process of implementing NGS reforms. New publications cover such topics as *Library Development, Student Assessment*, a *New Pedagogy Framework,* and *Architectural Designs for 21st Century Schools.*

MoEYS will soon be systematizing all NGS publications so that they can all be easily accessed online.

Graduation and Emplacement of School-based Mentors: Another major event and milestone during the year relates to the graduation and posting of 25 mentors who completed a Master's Degree of Education with a specialization in Mentoring at the *New Generation Pedagogical Research Center.* This is the first cohort to complete the Master's Degree program at NGPRC (and indeed the first Master's Degree candidates to graduate from the National Institute of Education) and constitutes a major first step in setting up the long-awaited establishment of school-based mentors in New Generation Schools. The placement of 3 to 4 mentors per New Generation School is intended to institutionalize continuous professional development for NGS teachers and reduce technical reliance on KAPE. All mentors were posted to NGS sites in October 2020 and are now working within a well-defined Mentoring Framework developed by KAPE for this purpose (see **Annex 3**).

Continuous Professional Development: NGS programmers organized some excellent workshops during the year that provided intensive hands-on training to STEM teachers in all secondary schools. STEM teachers were carefully led through more than one hundred experiments at the appropriate grade levels demonstrating the steps in carrying them out and the principles that they exemplify. School-based mentors will help to follow up on these workshops to ensure that they lead to high quality learning in the STEM labs provided by MoEYS.


CPD for Hands-on Science: NGS Resource Persons provided intensive technical support to STEM teachers in all New Generation Schools to ensure that all teachers know how to move their teaching from abstract lectures to practical science, especially among the new teachers. ↗

Final Arrival of Funds: As the month of June 2020 came and went, funds from Ministry of Economy & Finance (MoEF) also arrived, allowing KAPE to repay credits provided by the Franks Family Foundation to keep all operations running smoothly. In this respect, FFF provided over $450,000 in interest-free operating credits to KAPE to ensure that teacher incentives and salaries were paid on time and capacity-building activities could also be organized in a timely manner. With the arrival of funds from MoEYS-MoEF in June 2020, funds were returned to FFF in July 2020 and major investments in school infrastructure renewal quickly got under way.

2.3 Planning for an Expansion of NGS Programming

Towards the end of 2020, MoEYS indicated that the consolidation of NGS programming was nearing completion and it was now time to consider a possible national expansion in the number of New Generation Schools. MoEYS is currently planning to increase the number of New Generation Schools from 11[7] to 26, leading to the emplacement of 15 new sites including what will be known as 'Techno New Generation Schools.' The latter are schools intended to prepare technologists who will receive special training in Grades 10 to 12 as well as two years of tertiary training after the completion of Grade 12. MoEYS intends to expand NGS programming through a $30 million loan from the *Agence Francaise de Development (AFD),* which will cover a 6-year period from 2022 to 2027. The expanded program will continue to support existing New Generation Schools as well as the planned 15 new schools. MoEYS has asked KAPE to develop a Concept Note for submission to AFD, which was completed in December 2020. The expanded program will include several new elements including a new (and possibly imported) STEM curriculum designed especially for NGS, a new NGS Bac II Examination (that will include lab and ICT components), establishing 5 Techno NGS sites as noted above, and comprehensive support for New Generation Preschools, Primary Schools, and Secondary Schools.

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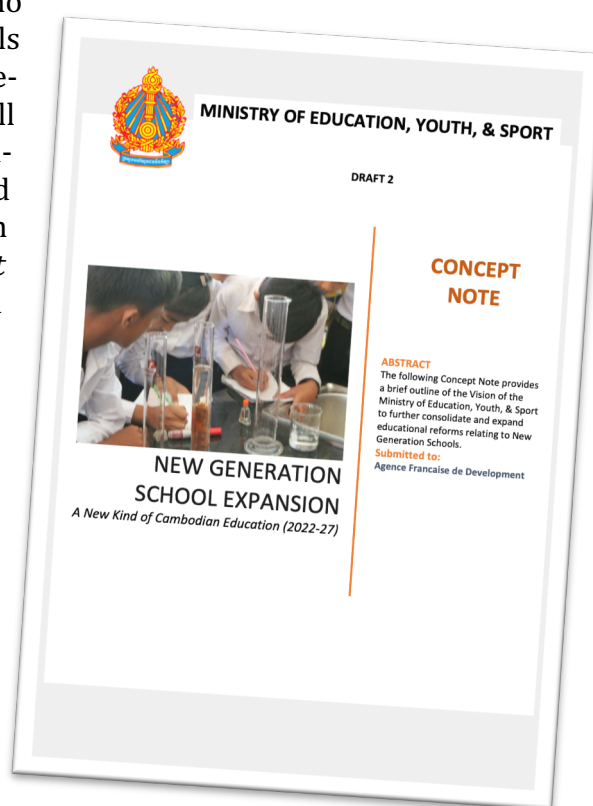
[7] The 11th New Generation School refers to investments at Yukantor HS in Phnom Penh, which is a Techno New Generation School supported by E2STEM.

3. KEY ACCOMPLISHMENTS AND ACTIVITIES DURING THE PERIOD

NGS Programming at Secondary School Level & Other Levels

3.1 Update on Programming Scope

As schools re-opened for the 2020-21 school year, all schools reported their enrolments, which reflect steady increases as grade coverage expands at Prek Leap HS, Prek Anchanh HS, Peam Chikong HS, and Kok Pring HS. Preah Sisovath HS has also decided to increase its Pupil Class Ratio from 32 to 1 to 36 to 1, which is the maximum allowed under NGS Policy. Demand for admission at Preah Sisovath HS has been exploding in recent years while the school has only limited seats due to the need to keep many classrooms available for teachers in the normal school to teach their private classes.

Overall enrollment at secondary schools in the NGS system increased to 4.664 students in the current academic year from 3,839 students last year or an increase of 21%. Primary school enrollment has also been increasing due mainly to the expansion in supported grade levels at Akhea Mahasei PS. Thus, enrollment increased from 1,883 students last year to 2,251 or an increase of 19%. Enrollment at three primary schools in the NGS system may continue to increase with the addition of three new classroom buildings that have markedly increased physical capacity of schools. Overall, NGS enrollment at both primary and secondary level has increased from 5,722 students to 6,915 or an increase of 21% (see Table 3.1).

Table 3.1: Enrollment, Investment Sources, & Background across all New Generation School Sites (2020-21)

Province	School Name	Enrollment (2020-21)	No. of Classes	Teach-ers	Investment Source	Establish-ment Date	NGS Develop-ment Model
Secondary School Level							
Phnom Penh	Preah Sisovath HS	999	28	72	MoEYS-FFF	Oct 2015	School in a School
	Prek Leap HS	978	30	75	MoEYS-FFF	Oct 2017	Whole School
Kampong Cham	Hun Sen Kam-pong Cham HS	455	13	36	MoEYS-FFF	Oct 2015	New School/ Dy-ing School
	Peam Chikorng HS	791	23	54	MoEYS-FFF	Oct 2018	Whole School
Kandal	Prek Anchanh HS	1018	30	72	MoEYS-FFF	Oct 2017	Whole School
Svay Rieng	Kok Pring HS	423	13	38	Child Fund	June 2015	Whole School
Total	6 schools	4,664	137	347	3 Sources	--	3 Models
Unit Costs	--	$320	$10,905	--	--	--	--
Primary School Level							
Kampong Cham	Demonstration School	467	12	20	Self-sup-porting	Oct 2015	New School/ Dy-ing School
	Angkor Ban PS	442	12	23	MoEYS	Oct 2017	Whole School
Kampong Speu	Akhea Mahasei PS	1008	28	38	MoEYS	Oct 2017	Whole School
Svay Rieng	Svay Prahuot PS	334	12	21	Child Fund	June 2015	Whole School
Total	4 Schools	2,251	64	102	3 Sources	--	2 Models
Unit Costs	--	$172*	*$6,250	--	--	--	--
GRAND TOTAL	10 Schools	6,915	201	449	4 Sources	--	3 Models

*Does not include Demonstration School and Svay Prahuot PS, which are externally or self-funded.

As noted above, grade coverage at several schools continued to increase during the year. The emplacement of new infrastructure by the Construction Department at Peam Chikong HS, Prek Anchanh HS, Angkor Ban PS, the Demonstration School of Kampong Cham, and Akhea Mahasei PS has made this expansion possible in many cases, even though the architectural design of these buildings tends to follow a traditional style, requiring additional investment to modernize and adjust facilities to 21st Century learning needs. All new buildings were completed by the end of 2020 in time for the 2020-21 academic year, which is scheduled to begin in January 2021. Nevertheless, this expansion in grade coverage places increasing pressure on the NGS budget to fund teacher incentives as the number of teachers joining the program continues to increase while at the same time funding levels for NGS operations have remained frozen at 2018 levels.

The budgetary pressure described above heightened the need to ready schools for their accreditation assessments, which will empower them to negotiate with local communities for budgetary support from parents. At the end of 2020, Prek Leap HS and Prek Anchanh HS were tentatively accredited so that they could join the four schools that were already accredited in 2019 bringing the total number of accredited schools to six (see Section 3.6). At current rates of grade expansion, it is expected that all schools will be able to cover all grades (i.e., Grades 1 to 6 at primary level and Grades 7 to 12 at secondary level) by the end of 2022 (see Table 3.2).

Table 3.2: Actual and Projected Grade Coverage in New Generation Schools (2018-23)

Province		School Name	Grade Coverage				
			2018-19 (Actual)	2019-20 (Actual)	2020-21 (Actual)	2021-22 (Projected)	2022-23 (Projected)
Secondary School Level							
Phnom Penh	1.	Sisovath HS	Grades 7-12	Grades 7-12	Grades 7-12	Grades 7-12	Grades 7-12
	2.	Prek Leap HS	Grades 7-9	Grades 7-10	Grades 7-11	Grades 7-12	Grades 7-12
Kampong Cham	3.	Hun Sen Kampong Cham HS	Grades 7-12	Grades 7-12	Grades 7-12	Grades 7-12	Grades 7-12
	4.	Peam Chikong HS	Grades 7-8	Grades 7-9	Grades 7-10	Grades 7-11	Grades 7-12
Kandal	5.	Prek Anchanh	Grades 7-9	Grades 7-10	Grades 7-11	Grades 7-12	Grades 7-12
Svay Rieng	6.	Kok Pring HS*	Grades 7-9	Grades 7-10	Grades 7-11	Grades 7-12	Grades 7-12
Primary School Level							
Kampong Cham	7.	Demonstration School**	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6
	8.	Angkor Ban PS	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6
Kg Speu	9.	Akhea Mahasei PS	Grades 1-2	Grades 1-3	Grades 1-4	Grades 1-5	Grades 1-6
Svay Rieng	10.	Svay Prahuot PS*	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6	Grades 1-6

*Supported by Child Fund; ** Self-supporting.

3.2 Efforts to Promote Online Learning

Following the closure of all schools, the NGS Central Office wasted no time in organizing schools to move the learning process to an online channel, where ever possible. Teachers were also informed that in order to justify the payment of their incentives, participating in online learning activities was mandatory. In general, rates of teacher participation were extremely high, averaging between 96% to 100% across most schools (see Table 3.3). In order to monitor the activities of teachers, a special tracking form (see **Annex 2**) was created by the NGS Office, which is completed on a weekly basis by all teachers. School managers check these forms before submitting them to the NGS Main Office for tabulation.

Altogether, seven of the 10 schools in the NGS system had active participation in the online learning activities organized by the program. Three schools (i.e., Kok Pring HS,

Svay Prahuot PS, and Angkor Ban PS) could not participate due to the intermittent nature of internet service in their catchment area making it difficult for local families to go online. These schools maintained educational services for their students through the regular MoEYS system of paper-based worksheets and tests. Nevertheless, teachers in the rest of the NGS system produced 4,180 lesson videos at secondary school level and 276 videos at primary level during the period April to June 2020 (see Table 3.3). Video production at Ahkea Mahsei PS was also depressed because of the poor internet service there and the school decided to abandon its online learning programming after about six weeks of video production and move to a worksheet mode. On average, each secondary school teacher produced 20 lesson videos while primary schools produced 8 per teacher. Preah Sisovath HS was especially productive in this regard, as the teachers there also assisted MoEYS to develop general archival videos for the entire school system in collaboration with the *Center for Digital & Distance Education* that will also be establishing its offices at the school. The decision to place the CDDE at Preah Sisovath HS will further promote the reputation of the school as a center for innovative education.

Table 3.3: Progress to Promote Online Learning in New Generation Schools by Subject and School (2020)

School	Number of Videos													Number of Teachers	Participating Teachers	Participating Teachers as a %	Videos per Teacher
Subject:	K	M	P	C	B	En	H	G	Mo	ES	IT	Other	Total				
Secondary School Level																	
Preah Sisovath HS*	148	298	232	154	134	37	84	20	19	14	27	22	**1,189**	61	61	100%	32
Preah Sisovath HS**	136	193	96	119	117	0	76	0	0	0	0	0	**737**				
Prek Leap HS	68	120	71	73	65	68	64	71	68	32	84	0	**784**	50	48	96%	16
H.S. Kampong Cham HS	86	86	40	33	44	80	35	28	47	29	20	23	**551**	22	22	100%	25
Peam Chikong HS	41	29	34	30	30	28	42	32	31	12	40	0	**349**	28	27	96%	13
Prek Anchanh HS	52	60	54	57	55	47	49	49	63	24	60	0	**570**	49	46	94%	12
Kok Pring HS***	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	0	0	0
Total	531	786	527	466	445	260	350	200	228	111	231	4,135	4,180	210	204	97%	20
Primary School Level	G1	G2	G3	G4	G5	G6											
Demonstration School PS	26	46	60	11	40	10							**193**	13	13	100%	15
Akhea Mahasei PS[8]	60	10	13	-	-	-							**83**	21	21	100%	4
Angkor Ban PS***	-	-	-	-	-	-							**-**	-	-	-	-
Svay Prahuot PS***	-	-	-	-	-	-							**-**	-	-	-	-
Total	86	56	73	11	40	10							276	34	34	100%	8

Sisovath HS: Videos for teacher; **Sisovath HS: Videos developed for MoEYS; ***Follows regular MoEYS Worksheet Program as internet service not available or reliable

In order to more easily disseminate the videos produced by teachers to students enrolled in the NGS System, schools formed their students into classroom-based social media groups on *Telegram.* Schools also posted educational videos on YouTube Channels established in each school. Teachers posted their videos and associated tests on these media

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[8] Unlike the Demonstration School, Akhea Mahasei PS only has coverage up to Grade 3. Grades 4, 5, and 6 are scheduled to join the NGS program over the next 2 to 3 years.

groups to share with students the week's lessons while also tracking students' learning through the use of regular tests. Schools reported that about 63% of secondary school students were actively participating in these lessons while at primary level, 81% were participating (see Table 3.4). These assessments of student participation in online learning were based on the number of tests students had completed and submitted back to their teachers using

Producing Educational Resources for Distance Education: *A training workshop at Hun Sen Kampong Cham HS helps teachers to develop educational videos.*

Google Form.[9] NGS teachers appear to have developed significant capacity to administer distance education services to their students, though many students appear to struggle with learning this way either due to limited internet access or insufficient access to a mobile learning device. As one might expect, student participation was highest in the upper grades (e.g., Grades 11 and 12), which evinced participation rates of 72% to 74% than the lower grades (e.g., Grades 7 and 8), which only evinced participation rates of 49% to 56%.

Table 3.4: Student Engagement in Online Education by Grade (2020)

Grade	Total Students	Total Tests Completed (May-June)	Tests Completed per Student	Total Tests Assigned	% of Tests Completed by All Students
*Secondary School Level**					
7	917	26,005	28	64,740	49%
8	725	23,816	33	47,485	56%
9	768	27,076	35	49,118	59%
10	651	26,367	41	40,276	68%
11	285	6,369	22	8,570	74%
12	158	3,616	23	5,396	72%
Total	3,504	113,249	30	215,585	63%
*Primary School Level***					
1	247	500	2	634	79%
2	359	705	2	866	81%
3	345	704	2	846	83%
4	72	235	3	288	82%
5	103	317	3	412	77%
6	76	264	3	304	87%
Total	1,202	2,725	2.5	3,350	81%

*Excludes Kok Pring HS; **Excludes Svay Prahuot and Angkor Ban PS

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[9] '**Google Forms**' is a tool that allows collecting information from users via a personalized survey or quiz. The information is then collected and automatically connected to a spreadsheet. The spreadsheet is populated with the survey and quiz responses.

3.3 Electronic Question Bank Development

The New Generation School System has struggled with the issue of valid test administration where teachers' assessments sometimes challenge the credibility of the test data generated. NGS has resisted the idea of instituting standardized tests (developed at central level) as other projects have done for fear that this will introduce negative 'washback' effects[10] on how and what teachers teach. Teachers in Cambodia tend to 'teach to the test' in the context of standardized testing, which frequently undermines efforts to promote instruction of higher order thinking, assign student projects, etc. The strategy chosen by the program to keep teachers in the driver's seat when it comes to student evaluation while maintaining high standards of assessment validity captures the programs motivation for this year's efforts to create systematic item analysis procedures in each school linked to an interschool Question Bank. The evolving Question Bank will be electronic in format and will enable teachers to assemble their own tests using questions that have been rigorously analyzed in terms of their *difficulty levels* and ability to *discriminate* between high and low performing students.

↑ *An example of the Template for the Test Analysis System established for each school. The template reads, (1) Tables of Specification; (2) Sample Tests; (3) Upper Group Scores; (4) Lower Group Scores; (5) Test Analysis Results; and (6) Full Question Displays. Data from test analysis activities from each school will feed into a Question Bank accessible by all schools in the system to ensure the development of the most valid tests possible.*

All NGS teachers have previously been trained in basic concepts of assessment such as the meaning of 'validity', how to use Tables of Specification to ensure Content and Construct Validity in tests, and Techniques in Question Development in various formats (both objective and subjective). Teachers understand the importance of developing

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[10] The **washback effect** is usually defined as the **impact** of assessment on learning and teaching. **Washback effects** are positive if the assessment results in favorable changes in learning and teaching strategies; and it is negative if the changes are undesired and discourage students from adopting a deep approach to learning. The practice of 'teaching to the test' is often considered a 'negative' washback effect.

Educational Objectives as the starting point for assessment, how these objectives facilitate the development of Tables of Specification, and how questions can be designed to match both the content and skills taught. An important feature of the process of test development concerns using different levels of *Bloom's Taxonomy* to ensure that Educational Objectives and the questions used to assess them cover a wide range of thinking skills from Memory to Evaluation and Creativity. Using the framework provided by *Bloom's Taxonomy,* NGS teachers have been writing test questions in a way to ensure that they can be classified by thinking skill so that tests are versatile in assessing both lower and higher order thinking skills.

Capacity-building activities to set up the Question Bank were completed in two steps. The first step focused on how to conduct item analysis using a new template created in Excel and the meaning of interpretive indices such as *Difficulty* and *Discrimination Level.* The second step focused on following up with teachers across all schools about inputting actual data from earlier administered tests into the new test analysis template. Capacity-building activities were completed during the year and all schools now have a significant number of questions with associated item analysis data that can be linked to the Inter-school Question Bank. It is expected that the Question Bank will become fully operational during the next academic year with access provided either directly to schools or through the NGS Website that is currently also in development (see Section 3.5).

3.4 Update on Electronic School Management Programming

In 2019, KAPE contracted a tech company called SALA to develop an electronic school management platform to expedite and standardize management procedures at all secondary schools within the New Generation School System. The SALA School management system is a cloud-based intuitive management software, suitable for schools from K-12 to University. This software automates a school's tasks and makes all academic operations more efficient. The functionality of the system is summarized in Box 1.

> **Box 1: Functionality of SALA School Management System**
> - Class making & attendance checking
> - Timetable design & management
> - Transcripts & reports generation
> - Students' scores & personal data management
> - Communication through student app
> - Staff management & access right distribution
> - Billing Management (in accredited schools where are paying students)

The SALA platform was piloted at Prek Anchanh HS in 2019 and was rolled out to other schools in 2020. During the year, all teachers and administrators in four schools[11] were trained in using the system. Following the training workshop, administrators became able to use all features of the platform and change configurations according to local needs. Similarly, teachers are now able to use the app to manage attendance records and student marks. Data for the current academic year was also successfully entered for all four schools. Preah Sisovath HS may also adopt the SALA program after having piloted a different school management system developed by *Wiki-school.* Although the first year of the pilot was free, Sisovath HS administrators are now considering whether they will buy the software license at $10 per student or use the SALA software, which is only $5 per student, a considerable difference. Because New Generation Schools are autonomous, they have the right to determine what software programs are most suitable for their school.

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[11] Prek Anchanh HS (Kandal), Prek Leap HS (Phnom Penh), Peam Chikong HS (Kg Cham), & Hun Sen Kampong HS (Kg Cham).

## 3.5 Website Development for New Generation Schools

As the New Generation School System produces more and more documentation and sees an increasing amount of public interest in its educational services, the NGS Central Office formulated plans to set up a website platform dedicated entirely to NGS programming. The website, which went up at the end of the year (cf. https://ngs.edu.kh/en/), enables teachers and other interested parties to submit applications for posted positions directly to NGS administrators and also allows students to sign up for entrance examinations electronically. Members of the public and government are also now able to access all educational resources produced by the program quickly and efficiently. This will include achievement reports, policy documents, technical manuals, question banks, background documents, and other kinds of educational resources. Users are now also able to access educational software that is used in New Generation Schools, particularly at primary school level where licenses are free. The functionality of the website is summarized in Box 2.

During the year, the NGS Central Office identified an external website developer to develop the proposed platform. The template for the website was developed through a process of intensive consultation with school managers, teachers, and program advisers (see inset). ICT staff have started the lengthy process of uploading information onto this public site. It is expected that the website should be fully operational by May 2021.

The template for the NGS Program Website ➔

Box 2: NGS Website Capabilities
1. Availability of General Data & Stats by School
2. General Inquiries
3. Latest News and Developments
4. Listing of Job Openings in All Schools & Electronic Applications
5. Electronic Student Applications for School Entrance Examinations
6. Access to NGS Publications & Resources
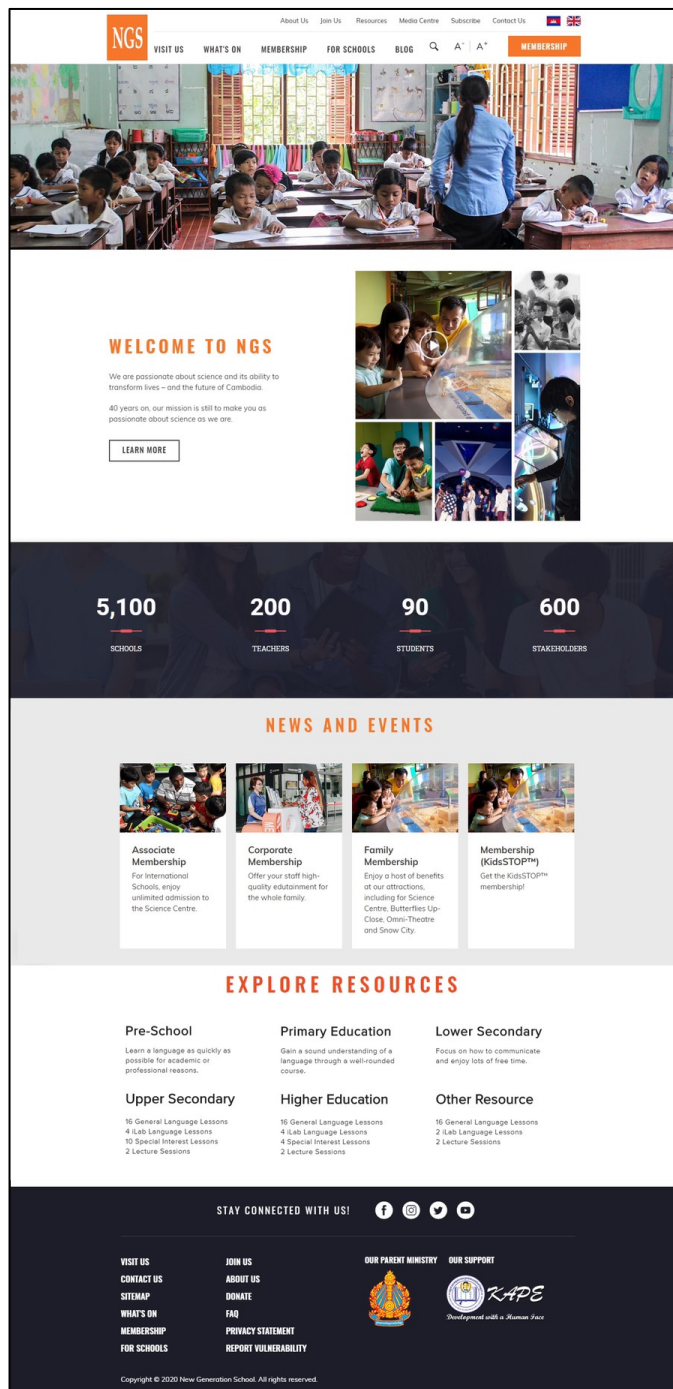
3.6 Accreditation Visits & Anticipated Shifts to Parental Financing

As noted earlier, the formal accreditation of New Generation Schools continues to accelerate as more and more schools complete their three-year investment cycles. In 2020, Prek Leap and Prek Anchanh HS completed their 3-year investment cycles and applied for accreditation at the end of the calendar year (see Table 3.5). Although the accreditation process occurred during the period of Covid19 interruptions, accreditors were nevertheless able to tentatively provide recommendations for accreditation. These schools now join four others (i.e., Preah Sisovath HS, Hun Sen Kampong HS, Kok Pring HS, and the Demonstration School) that have already achieved their accreditation in previous years. Assessors found that Prek Leap and Prek Anchanh HS both achieved high standards of educational service provision and are extremely well-regarded secondary schools in their local communities with rising demand for admission. With their accreditation, it will now be possible for these schools to formally request financial support from parents as per MoEYS' approved policy. These developments will be very important for future budgeting purposes as the number of supported teachers in the NGS System continues to grow each year while funding levels for NGS development remain frozen.[12] Budgetary support from parents will help NGS programmers ensure that the system can continue to expand even though resource availability becomes more and more problematic.

Table 3.5: Past & Planned NGS Accreditation Visits, 2017-22

School Name	Province	Planned Accreditation Rate					
		2017	2018	2019	2020	2021	2022
1. Preah Sisovath HS	Phnom Penh	✓	✓	✓	✓	✓	✓
2. Prek Leap HS	Phnom Penh				✓	✓	✓
3. Hun Sen Kg Cham HS	Kg Cham	✓	✓	✓	✓	✓	✓
4. Peam Chikong HS	Kg Cham						✓
5. Prek Anchanh HS	Kandal				✓	✓	✓
6. Kok Pring HS*	Svay Rieng			✓	✓	✓	✓
7. Demonstration School	Kg Cham		✓	✓	✓	✓	✓
8. Angkor Ban PS	Kg Cham					✓	✓
9. Akhea Mahasei PS	Kg Speu					✓	✓
10. Svay Prahuot PS*	Svay Rieng					✓	✓
Total		2	3	4	6	9	10
Projected Percentage of Accredited Schools		20%	30%	40%	60%	90%	100%

*Currently funded by Child Fund through KAPE.

The accreditation process is a deeply time and resource intensive process. Although the process is often under-appreciated, it is the lynchpin within the NGS system for linking investment to performance. The accreditation framework in NGS underpins the whole process for making improved 'school accountability' the central principle in NGS development. When there were only two schools applying for accreditation at the beginning of the NGS program, this process was manageable within the busy schedules of MoEYS staff

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[12] In spite of frozen funding levels, the NGS Central Office has still been able to grow the program by shifting funds earlier designated for infrastructure upgrading in schools that have already completed their investment cycles (e.g., Preah Sisovath HS, Hun Sen Kampong Cham HS) to newer schools that still require funds for new teachers and classroom renovations. Parental contributions will greatly help to facilitate future expansion if, as expected, funding remains at its current levels.

Table 3.6: Results of Accreditation Visits by Criteria (2020)

Accreditation Criteria	Preah Sisowath HS			Hun Sen Kg Cham HS			Demonstration School			Kork Pring HS			Prek Leap HS			Chea Sim Prek An-chanh HS			Svay Prohuot HS		
	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved	Fully Achieved	Achieved to Acceptable Standard	Not Achieved
Required Criteria (100% Score Required)																					
1. Private Tutoring abolished	X			X			X			X			X			X			X		
2. Practices of mandatory student purchases of teacher goods abolished	X			X			X			X			X			X			X		
3. Rationalized resource allocation system	X			X			X			X			X			X			X		
4. Increased hours of Instruction	X			X			X			X			X			X			X		
5. Teacher Career Path Planning & Teacher Support Framework	X				X			X		X				X			X		X		
6. 21st Century Library Availability	X			X			X				X		X			X					X
7. Professional Learning Community among Teachers	X			X			X			X			X			X			X		
8. High Rates of Student Access to ICT	X				X			X		X				X		X			X		
9. Availability of ICT Lab services	X				X			X		X			X			X			x		
10. Availability of science lab services	X				X			X			X		X			X					X
11. PCR Level under 36:1	X				X			X		X			X			X			X		
12. Financial System in Place	X			X			X			X				X		X			X		
Subtotal Score	**12**			**7**	**5**		**7**	**5**		**10**	**2**		**9**	**3**		**11**	**1**		**10**	**2**	
Preferred Criteria (At least 50% Score Required)																					
13. Functional Student Council	X			X				X		X				X		X			X		
14. Functional SSC	X			X			X			X			X				X		X		
15. Teacher proficiency in ICT usage		X			X			X			X		X				X			X	
16. Evidence of career counseling services (secondary)	X			X							X		X			X					
17. Classroom sanitation & attractiveness	X				X			X			X		X			X				X	
18. Toilet hygiene and clean water access		X			X			X			X		X			X			X		
19. Sports/playground facilities	X				X			X			X			X		X				X	
20. Life skills Education		X		X			X			X			X			X			X		
21. Great Books Reading Programming		X				X			X	X			X			X			X		
22. Canteen services for students			X	X			X				X			X				X		X	
23. School Clinic in Place	X			X			X					X	X					X			X
24. 80% of Teachers have Bachelor Degree or Higher	X			X			X				X		X			X				X	
Subtotal Score	**7**	**4**	**1**	**6**	**5**	**1**	**6**	**5**	**1**	**4**	**8**		**8**	**4**		**8**	**2**	**2**	**5**	**5**	**1**
Grand Total Score	**19**	**4**	**1**	**13**	**10**	**1**	**12**	**10**	**1**	**14**	**9**	**1**	**17**	**7**	**--**	**19**	**3**	**2**	**15**	**7**	**1**
Percentage Achieved	*96%*			*96%*			*96%*			*96%*			*100%*			*92%*			*96%*		

who participate in animating the assessment of schools. Now that 60% of schools will need accreditation visits in 2020 with steady increases anticipated in the future, the program has suggested the creation of a new position known as the *Accreditation Coordinator* who will focus full-time on ensuring that the accreditation process unfolds as planned. This position will necessarily increase in importance as investments in new NGS sites occur while older sites need continuous re-accreditation. When and if MoEYS moves forward with plans to more than double the size of the NGS program in 2022, KAPE has suggested the establishment of a separate Accreditation Office that will have its own staff responsible for all accreditation matters. This office will be known as the *NGS Accreditation Office* and will report directly to the National Oversight Board.

The Accreditation Team that assessed the six schools at the end of 2020 found very high levels of operation across all schools. As required, all schools achieved certification of the 12 assessment criteria that are absolutely required for accreditation (i.e., Criteria 1 to 12 in Table 3.6). These criteria refer to abrogation of private classes, lab and library utilization rates, general governance issues, allocation of resources, and other issues that are key to NGS branding definitions. Schools also achieved well over 50% of Preferred Criteria (i.e., Criteria 13 to 24). Average accreditation scores ranged from 92% to 100% (see Table 3.6). Assessments involve actual observations of activities, review of documentation, and interviews with teachers, students, community members, and school managers. Validation of assessments must be reported by assessors to justify their scores. The main areas where schools are still missing targets include organizing the *Great Books Program*[13], Student Clinics, and Canteens. Nevertheless, schools are moving forward in each of these areas with student clinics becoming operational in Prek Leap and Prek Anchanh HS in 2021 and several schools planning for canteens in coming years.

The Accreditation Subcommittee has submitted its recommendations to the National Oversight Board for review at the end of 2020. It is expected that MoEYS will accept the recommendation for accreditation of all six schools bringing the total number of accredited schools up to 60% of those that are currently in operation.
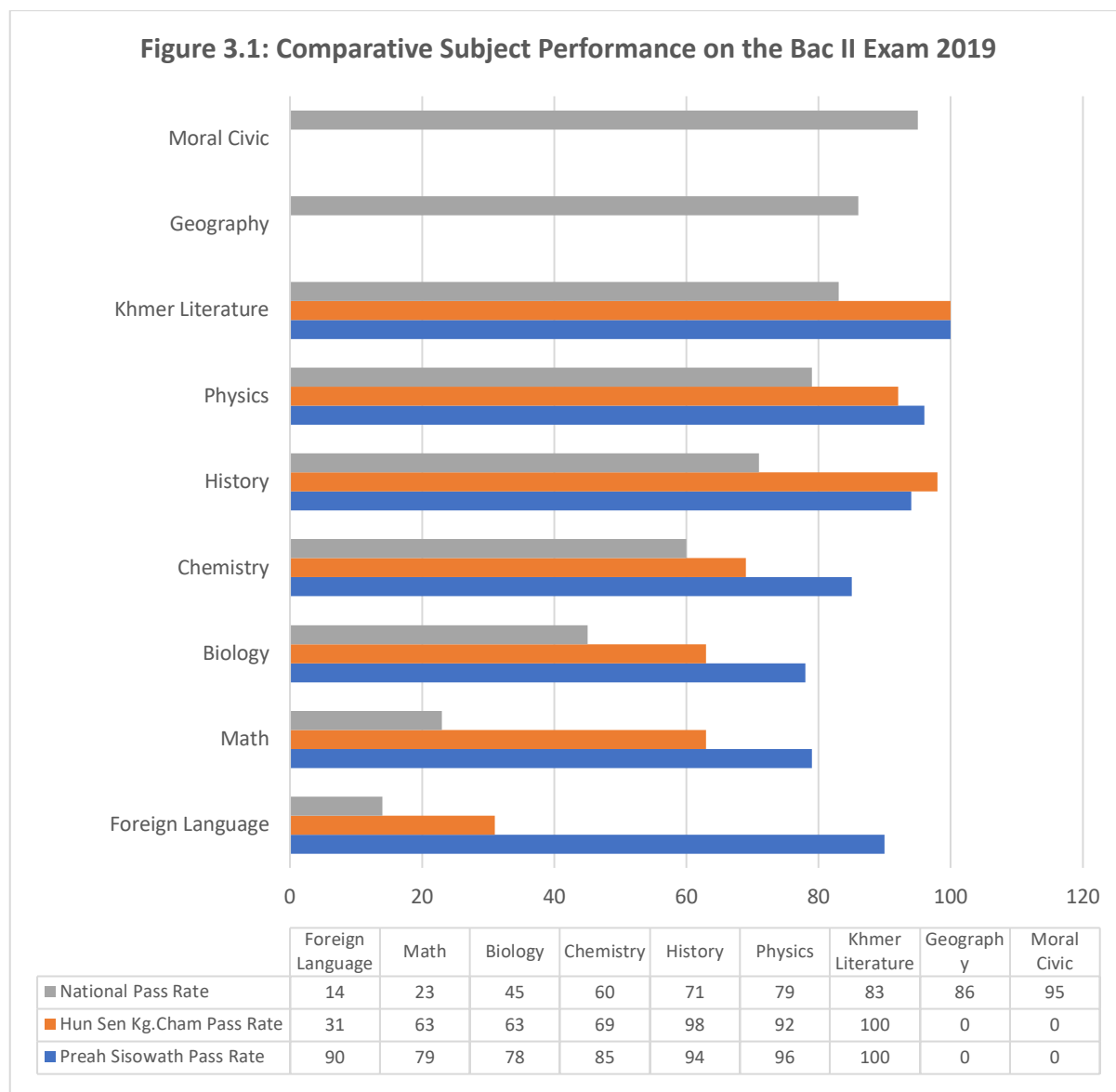
3.7 Update on the *Bac II Examination*

The NGS system came off of a very successful set of results in the last *Bac II Examination* in 2019 with extremely high pass rates at both Preah Sisovath HS and Hun Sen Kampong Cham HS (the only schools with cohorts at the Grade 12 level). A recent comparative analysis of last year's Bac II Exam results indicates that both schools achieved higher pass rates than the national rate in all subjects but especially in Foreign Languages,

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[13] The modern-day *Great Books Program* is inspired by the *Great Books Movement* that began in the United States during the 1920s. The aim of such programs is a return to reading the great works of literature to provide students with a well-rounded liberal education. The essential component of such programs is a high degree of engagement with whole primary texts, the Great Books. The curricula of Great Books programs often follow a canon of texts considered more or less essential to a student's education, such as Plato's *Republic*, or Dante's *Divine Comedy*. In NGS settings, the Great Books idea has been broadened to include many famous works of Asian culture such as the *Ramayana, Mahavesandor,* or the works of Confucius. The Great Books Program uses primary texts, which dictate an interdisciplinary approach, as most of the Great Books do not fall neatly under the prerogative of a single contemporary academic discipline. Great Books programs often include designated discussion groups as well as lectures, and have small class sizes. In general, students in such programs receive an abnormally high degree of attention from their teachers, as part of the overall aim of fostering a community of learning. The Great Books Program seeks to have students read at least one book per month.

Mathematics, Biology, and Chemistry (see Figure 3.1) where pass rates for NGS students were sometimes several times higher.

Figure 3.1: Comparative Subject Performance on the Bac II Exam 2019

	Foreign Language	Math	Biology	Chemistry	History	Physics	Khmer Literature	Geography	Moral Civic
National Pass Rate	14	23	45	60	71	79	83	86	95
Hun Sen Kg.Cham Pass Rate	31	63	63	69	98	92	100	0	0
Preah Sisowath Pass Rate	90	79	78	85	94	96	100	0	0

Due to the problem of frequent school closures in 2020 as a result of the Covid19 Pandemic, MoEYS decided to cancel the *Bac II Examination* and promote all students who had reached Grade 12. Thus, the pass rate for NGS students this year was 100% as it was for all schools in the education system, thereby making comparative analyses of performance redundant.

3.8 Transition of NGS Students to University

One of the important metrics used by the program to assess educational quality concerns the number of students graduating Grade 12 who transition into tertiary levels of study, particularly at university. One of the justifications for NGS investment made by MoEYS to MoEF is that New Generation Schools are greatly accelerating the transition of talented youth into the 21st Century work force; thus, measures of post-secondary study are

extremely important. Based on tracking surveys conducted by schools, it was reported that transition rates to tertiary levels of study continue to be quite high. The overall rate of transition to university was reported to be 100% this year, jumping from 88% in the previous year (see Table 3.7). This greatly exceeds the minimum performance target of the program, which is for at least 80% of graduates to transition to tertiary level study. Of those transitioning, 38% received scholarships, which is also indicative of the high quality of student talent who are learning in New Generation Schools.

Table 3.7: Post-Secondary Tracking of Grade 12 Students, 2020

School	Total Grade 12 Students	Students Admitted to University	%	Receiving Scholarships	%	Admitted to TVET & 2-year Institutions	%	Entered Work Force	%
Preah Sisovath HS	103	103	100%	48	47%	--	--	0	0%
Hun Sen Kampong Cham HS	51	51	100%	9	19%	--	--	2	4%
Total	154	154	100%	57	38%	--	--	2	1%

3.9 Access Levels and Rates of Admission to NGS Facilities

New Generation School programming continues to be wildly popular with the Cambodian public and demand continues to outpace supply. In order to address this high demand, most New Generation Schools have had to turn to standardized Entrance Examinations and/or lotteries as the fairest way to ration available seats. Often these measures are not well understood by local communities who are not happy when public schools limit access based on measures of academic preparedness. However, these measures are required by NGS Accreditation standards, which stipulate a maximum PCR of 36 to 1 or less in 80% or more of classes. Unlimited access to New Generation Schools would quickly lead to very large class sizes, which would in turn make it impossible to use many of the modern teaching techniques used in New Generation Schools. In addition, New Generation Schools demand that students at secondary school level enter with basic proficiency skills in literacy and mathematics. Unfortunately, many students in Cambodia are completing Grade 6 with little or no ability to read or write or perform basic math.[14]

The results of Entrance Examinations for the 2020-21 academic year are presented in Table 3.8 below. The acceptance rate of new applicants ranged from a low of only 18% at Preah Sisovath HS to a high of 69% at Kok Pring HS, where demand is lower (possibly because it is a more rural area). Nevertheless, most secondary schools have been trying to hold the line on standards and ensuring class sizes of 36 to 1 or less. Overall, the admission rate was 51% among secondary schools, which is an improvement from last year's admission rate of only 44%. Problems of supply and demand appear to be most problematic at Preah Sisovath HS and Hun Sen Kampong Cham HS where space is in high demand. A new classroom building that is currently under construction at Hun Sen Kampong Cham HS may help to alleviate the severe imbalance between supply and demand.

In contrast, primary schools demonstrated somewhat higher rates of admission, mainly

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[14] There is not yet a consensus on how the NGS Program should deal with illiterate students at Grade 6 who seek to transition to Grade 7 of a New Generation School. Some people feel that New Generation Schools should accept such students and provide remedial support. Others feel that New Generation Schools are not the best vehicle through which to deal with issues of basic literacy and numeracy. To deal with such students, MoEYS could provide basic literacy and numeracy support at much lower unit costs than are entailed by the high-tech labs and libraries of a New Generation School. Basic literacy and numeracy are not the goals of a New Generation School nor the high investment that they require.

because there are fewer restrictions on literacy for the children applying at Grade 1, since they are at the beginning of the education cycle. In this respect, 82% of those children applying were accepted with the Demonstration School showing the highest rates of restriction due to a shortage of building capacity combined with the strict PCR requirements of the NGS accreditation process (see Table 3.8).

Table 3.8: Test Results among Students Applying for Entry to New Generation Schools, 2020

Name of School	Total Seats Available	Applicants Tested	Total Passing	Total Applications Accepted	Students Accepted as a % Applicants
Secondary Level					
Preah Sisovath HS	150	757	140	140	18%
Hun Sen Kg. Cham HS	42	128	42	42	33%
Prek Anchanh HS	289	461	296	289	63%
Prek Leap HS	272	447	299	299	67%
H.S Peam Chikorng HS	460	655	438	438	67%
Kok Pring HS	139	183	127	127	69%
Subtotal	*1,352*	*2,631*	*1,342*	*1,335*	*51%*
Primary Level					
Demonstration School	60	121	71	71	59%
Akhean Mahasei PS	216	230	216	216	94%
Angkor Ban PS	14	16	16	16	100%
Subtotal	290	367	303	303	82%
Grand Total	1,642	2,998	1,645	1,638	55%

3.10 Student Support Services: Career Counseling, Student Clinics, & Life Skills

Counseling Services: New Generation Schools are distinguished from other schools by the depth and breadth of services that they provide to students. This includes full-day library services, ready access to science and ICT labs, access to software and mobile learning devices, etc. Some services have been rolling out faster than others. For example, counseling services are now well developed and provide individualized counseling services to students at risk as well as informative workshops on career planning. Each school has a full-time counselor[15] who conducts student risk-surveys, organizes workshops, seeks out guest speakers in the various professions, provides individualized counseling, and promotes the use of electronic counseling apps such as *Trey Visay.* This app is available on mobile devices in the school library or can also be accessed from a smartphone, if students should possess one. Based on school reporting, counselors administered surveys to 917 incoming Grade 7 students to determine those at risk of leaving school before the
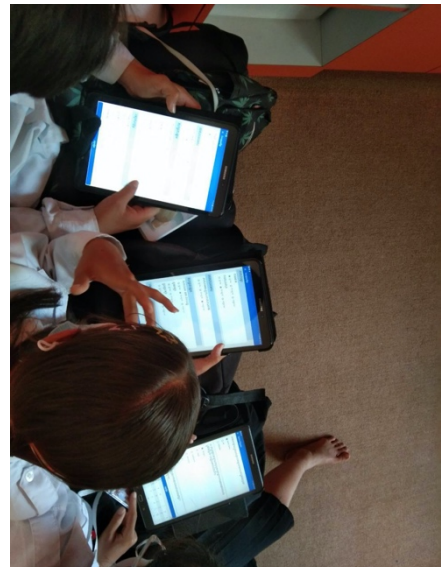
Electronic Counseling Services: School-based counselors help students to assess their career interests on the app Trey Visay at Peam Chikong HS.

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[15] NGS Career Counselors work full-time as counselors and have no class teaching responsibilities.

completion of Grade 9/12 (see Table 3.9). Based on these surveys, counselors reported that 17% of those surveyed were at-risk and in need of special attention and counseling support. Altogether, counselors reported counseling 2,148 students across all grades during the school year, which is a huge number of students. New Generation Schools are quite unique in the breadth and depth of career counseling services that they provide to the students who are enrolled there.

Table 3.9: Overview of Counseling Activities across All NGS Secondary Schools, 2020

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	81	6	1	4%	1%	544	211	54%	43%	110
Hun Sen Kg Cham HS	1	82	48	22	14	27%	17%	199	100	48%	48%	167
Prek Anchanh HS	1	246	138	16	4	7%	2%	225	97	28%	12%	216
Prek Leap HS	1	228	103	61	35	27%	15%	692	355	93%	45%	186
Peam Chikong HS	1	217	116	46	21	21%	10%	488	251	90%	81%	93
Total	**5**	**917**	**486**	**151**	**75**	**17%**	**9%**	**2,148**	**1014**	**63%**	**46%**	**772**

*Note: Student surveys focus on students entering New Generation Schools at Grade 7 for the 2019-20 academic year.

Student Clinics: Programming in 2020 took a significant step forward by establishing two new student clinics at Prek Leap and Prek Anchanh HS this year. These two clinics will join those already in operation at Hun Sen Kampong Cham HS and Preah Sisovath HS. Renovations have been completed to the clinics at both schools and they have been fully furnished and equipped. The clinics can provide first aid, simple medications, and routine examinations of both students and teachers. For more serious issues, the clinics can make referrals to the local hospital. The clinics are each staffed with a full-time nurse who is a certified practitioner. Nurses are competitively recruited by the local NGS Board and paid by the program and/or school depending on levels of parental support. Nurses also maintain health records of all students and provide special workshops on reproductive health, Covid19, and other health issues in Cambodian society. Parents very much appreciate this service, which is quite unique among Cambodian schools.

New Clinics Coming Online: *The picture above shows a newly established student clinic at Prek Leap HS in Phnom Penh. The clinic is equipped with two beds and materials for examinations, first aid, and other health support.*

Life Skills Education: During the year, New Generation Schools have also been making new investments in promoting life skills education. This support already existed at some schools such as Hun Sen Kampong Cham HS but has now been expanded to all schools in the NGS system. This support takes many forms including agricultural life skills (e.g., hydroponic gardening, Integrated Pest Management, Fish Raising, etc.), public speaking, debating, and other courses where students demonstrate an interest. Investments take the form of teacher training and incentives, the establishment of bio-gardens, and other needed facilities for hands-on learning.

Box 3: Life Skills Education in the NGS System

← *Vegetable Cultivation Using Integrated Pest Management or IPM: Practical eco-friendly vegetable cultivation techniques are being introduced across the NGS System. These classes. IPM demonstrates natural techniques that can take the place of insecticides and herbicides.*

From the Garden to the Cooking Pot: Both boys and girls learn practical techniques for cooking using much of the produce that they grow in IPM or hydroponic gardens at the school. ➔

← *Hydroponic Gardening: NGs students now learn about the intensive cultivation of vegetables using hydroponic techniques that do not require the use of herbicides and pesticides.*

From Theory to Practice: Life skills instruction in NGS settings ensures that theoretical presentations in the classroom are closely linked with practical applications in bio-gardens and other facilities that are being established throughout the NGS system. ➔

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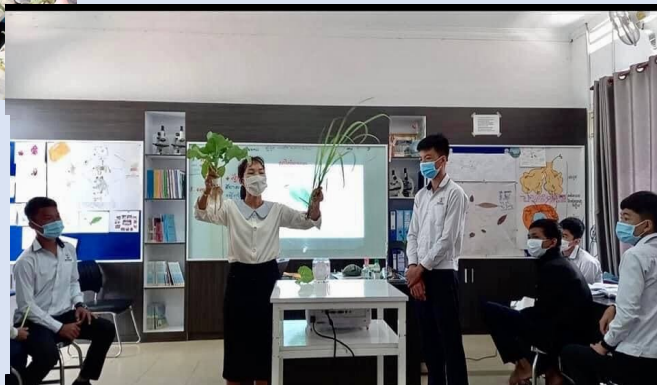
3.11 New NGS Publications

During the period of school closure, program personnel have been extremely busy in documenting various aspects of New Generation School development. This includes publications on Infrastructure & Design, 21st Century Libraries, Student Assessment, and Policy Development (see Box 4). The 21st Century Library Manual has now been completed and printed while a new publication on the architectural guidelines used in New Generation Schools has also recently been completed.
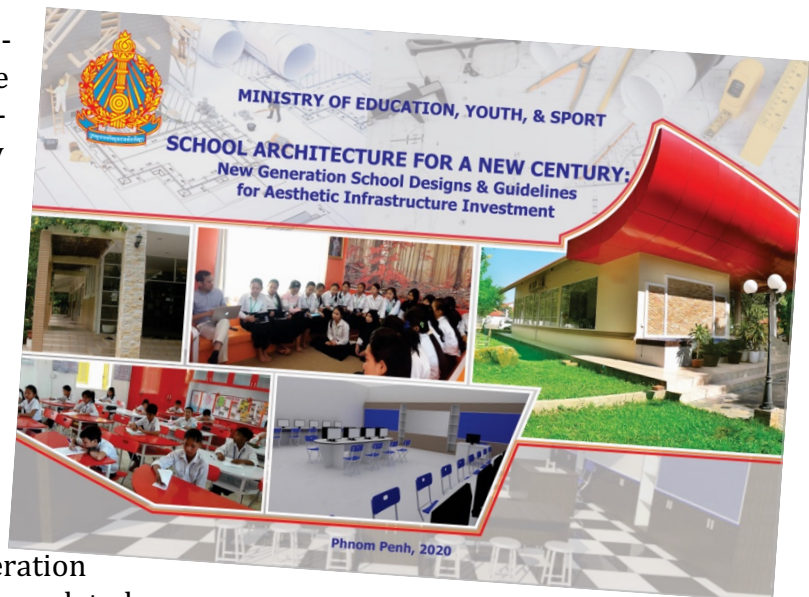
The English version of the architecture manual has now gone for printing while a Khmer version has been translated but is waiting for proof-reading before being shared with MoEYS. This new document is called, *School Architecture for a New Century* and it is hoped that this book will not only support the creation of NGS environments but may also have significant uses in other development projects. This book tries to make the point that Cambodia's education system has been using the same standardized school design for the last 70 years and that such designs no longer fit current educational needs. A limited edition of 200 hard copies has been completed in English and the soft version of the document will be available on the NGS Website.

The new architecture publication provides numerous guidelines for the configuration of learning spaces using modern principles of school architecture (see Box 5) while also providing numerous case studies in

Box 4: Recent NGS Publications
- School Architecture for a New Century
- 21st Century Library Manual
- Constructivist Learning Manual
- A 21st Century Pedagogy Framework for Cambodia
- Formative Teacher Support Framework
- Student Assessment in the Classroom Manual
- NGS Operational Policy Guidelines
- New Generation Preschool Model Handbook

Box 5: Selected New Design Ideas for Cambodian Public Schools
1. Promoting classroom configurations that can drive new pedagogies;
2. Introducing the use of modern materials such as glass, formica, chrome, and textiles;
3. Designing multi-functional furniture to match the physical contours of an educational space;
4. Improving coordination of colors to create 'visible harmony';
5. Considering more aesthetically pleasant appearances to make learning spaces more attractive.

Cambodia, sample building layouts, price estimates for procurement purposes, and recommendations for future directions in school design in the Kingdom. The publication notes that modern design is in many cases no more expensive than traditional design and occasionally it is actually cheaper. The English version of this document will soon be disseminated among both senior government officials as well as donors while the Khmer version will be shared with those at provincial level to help change the perspectives of Cambodian educators as this relates to school design.

3.12 Establishment of School-based Mentoring System

The New Generation School System achieved a major milestone when it completed the establishment of a school-based mentoring system in all secondary schools. This was made possible when the first cohort of 25 mentors completed their Master's Degree of Education at the *New Generation Pedagogical Research Center* at NIE. About half of these degree candidates were recruited from within the NGS System and returned to their schools in their new role as mentors. The remaining degree candidates recruited from outside the NGS system expressed preferences to either join a New Generation School or go to another institution that focuses on teacher education (e.g., National Institute of Education, TECs, etc.). In all, 17 of the 25 graduating mentors were assigned to a New Generation secondary school while the remainder were posted at other teacher education institutions (see Table 3.10).

> **Box 6: Key Elements of the School-based Mentoring System in the NGS Context**
>
> 1. Mentors will still teach at their assigned schools to maintain their teaching skills but focus 75% of their time on mentoring and 25% on teaching.
> 2. Mentors will receive an extra stipend to incentivize their special role in the school.
> 3. Mentors will document all their work and archival footage of teachers teaching using new mentoring software called *Observic.*
> 4. Mentors will receive follow-up support from the *New Generation Pedagogical Research Center* to ensure that they are effective in their jobs and that the host institutions have provided an enabling environment to make them effective.
> 5. Mentors will be assigned to work with teachers using a ratio of not more than 15 teachers but not less than 10.
> 6. School-based Mentors are not intended to replace TGLs, rather their role is to supplement the regular duties of the TGL.

Table 3.10: Assignment of Mentors within the NGS System and Other Institutions, 2020

Recipient Institution	Total Mentors Assigned	Mentors Internal to the NGS System	Mentors External to the NGS System
NGS Institutions			
Preah Sisovath HS	4	2	2
Hun Sen Kampong Cham HS	3	2	1
Prek Leap HS	3	3	0
Prek Anchanh HS	3	1	2
Peam Chikong HS	2	1	1
Kok Pring HS	2	0	2
Subtotal	*17*	*9*	*8*
Non-NGS Institutions			
National Institute of Education	2	0	2
Teacher Education Ctr. - Phnom Penh	3	0	3
Teacher Education Ctr. - Battambang	3	0	3
Subtotal	*8*	*0*	*8*
Total	25	0	8

During the year, the NGPRC developed a policy framework for the placement and follow-up of mentors that graduated from the Center. This framework is reproduced in **Annex 3.** Key elements of the framework are also summarized in Box 6 above. Important considerations in this regard concern guidelines about how many teachers one mentor can support, how mentors should be remunerated, as well as the use of new software tools to amplify the effectiveness of mentoring activities. In this respect, mentors studying at NGPRC received intensive training in the use of new technologies to promote both mentoring as well as improved pedagogical practices. The *Observic* software, developed in the UK and now contextualized to the Cambodian education system, is one such example. Following a workshop with new mentors and school managers in September 2020 to ensure that there is an enabling environment for mentors to do their jobs effectively, all mentors returned to their schools in October 2020 and began working with their colleagues to provide intended tech support. Each mentor has his or her own office and the full support of school managers.

Tech Savvy Mentors: *A group of prospective mentors study mentoring software programs as part of their degree requirements at NGPRC.*

Sadly, most development partners appear to show little interest in the Ministry's investments in the NIE-based mentoring program while opting instead for large investments in shorter, lower quality mentoring courses of two weeks or less that use a cascade model for dissemination. In spite of this stance among most development partners, the NGPRC will continue to work closely with the NGS System to advocate for a more long-term solution to the issues of teacher support in the classroom both in the NGS network of schools as well as affiliated projects such as the ADB-funded Upper Secondary Education Sector Development Program (USE-SDP 2).[16]

School-based Mentoring Begins: *A school-based mentor at Prek Anchanh HS sits at her desk in her own office to provide full-time professional development support to colleagues.*

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[16] The NGPRC will provide mentoring support to teachers working in 138 secondary schools that are part of USE-SDP programming. This support will be delivered through a Technical Assistance support contract between KAPE (which manages the Center on behalf of the Ministry) and MoEYS.

3.13 Raising the Profile of New Generation Schools

The public profile of New Generation Schools continues to grow. Last year it was reported that NGS Reforms were presented in several publications and at several international conferences including the international conference of the *Comparative International Education Society (CIES)* in 2019. This year, NGS Reforms were analyzed in a recent publication by the World Bank called, *Cambodia in the Time of Covid19: Special Focus on Teacher Accountability and Student Learning Outcomes.*[17] This publication proposed three models of improved accountability in schools including the New Generation School Model, School-based Management Models[18] (e.g., Secondary Education Improvement Project), and Private Schools. Although this analysis focused on several criticisms of the NGS model including its cost and constraints on inclusivity (due to entrance examinations), the critique was generally positive and recognized the very high standard of educational quality that had been achieved in all sites as well as the rigorous structures to ensure school accountability. It is not clear what effect this report may have on future donor intentions to more broadly fund New Generation Schools, but it is an important achievement to have established an accountability model that is now on the radar screen of the large development banks.
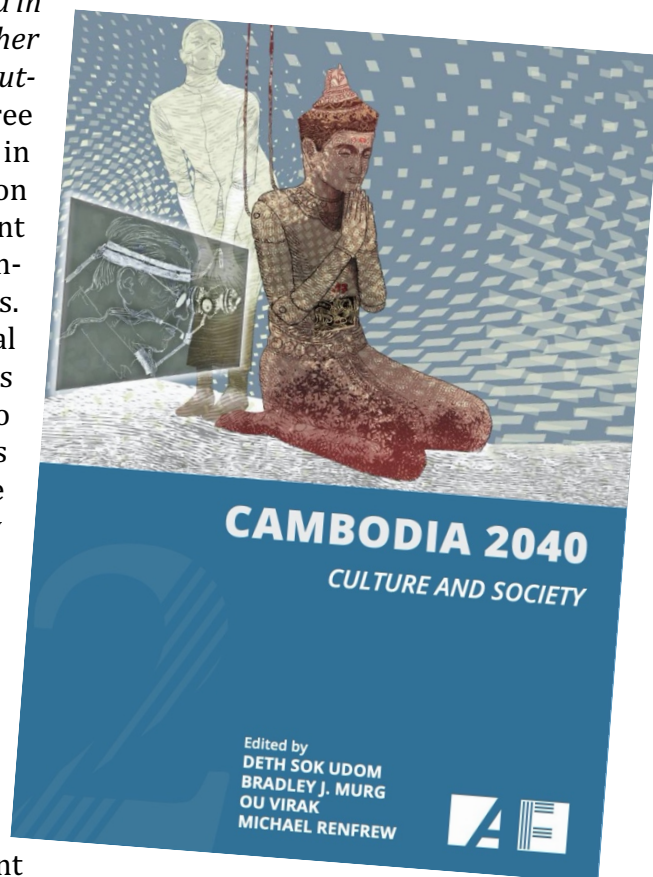
New Generation School reforms were also described in a new publication by the Adenauer Foundation as an important channel through which to revolutionize Cambodian education in terms of its use of digital education. This new book entitled, *Cambodia 2040: Culture & Society*[19] speaks glowingly about the potential of the New Generation School model to transform the education system from a fact-based learning model to one that emphasizes the higher processes of learning. In the chapter entitled, *Education: Pedagogy and Infrastructure* by Khoun Theara (Chapter 4), there are extensive discussions about how the NGS model offers the best foundation upon which to build a new education

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[17] https://www.worldbank.org/en/country/cambodia/publication/cambodia-in-the-time-of-covid-19-coronavirus-economic-update-may-2020

[18] It is actually somewhat of a misnomer to suggest that SBM and NGS models are different in terms of their use of School-based Management principles. In actuality, New Generation Schools use School-based Management approaches to a degree much higher than the World Bank's *Secondary Education Improvement Project* with schools in NGS evincing the autonomy to hire their own teachers, change the curriculum, and modify the timetable, which are not possible in SEIP sites. Thus, it should be recognized that both models use an SBM approach but that the difference between the two models lies in the degree to which such principles are utilized.

[19] https://www.kas.de/documents/264850/9494366/Cambodia+2040+Culture+and+Society.pdf/2d86a754-1708-ca31-d78f-e70ac7b19aac?version=1.0&t=1593966925445

system that moves the economy from a labor-intensive to a knowledge-intensive model. Another chapter entitled, *Education: Inclusivity, STEM, and Smart Design* (Chapter 5) by Rath Setha provides a detailed descriptive narrative of key characteristics of New Generation Schools and how this model will be the forerunner of Cambodian 'Smart Schools.' This publication hit local book shops in June 2020 and appears to be selling rapidly.

The ability of New Generation Schools to attract the interest of academics as well as development partners is itself an important achievement for NGS programming. The extensive documentation of NGS programming and accompanying technical publications will provide an evidence-based platform for future replication of the model in other contexts (including in other countries). Such developments will be an important step for Cambodia to start attracting private investment to help the government expand New Generation Schools from the current 10 sites to at least one such center in each province.

3.14 Progress on Renewed NGS Building Renovations for 2020

With the arrival of funds from MoEYS in June 2020, the program began once again to extend the modernization of schools, particularly at Prek Leap HS, Prek Anchanh HS, Peam Chikong HS, and Akhea Mahasei PS where grade level expansions have not yet been completed (see Table 3.2 presented earlier). As part of this year's renovations, extensive investments were also made in landscaping to ensure that there are 'green spaces' out-side of classroom buildings in all sites for students to study and do specialized activities (see picture below). The program architect has developed detailed plans to guide these efforts in all schools. In addition, classrooms that were renovated more than three years ago were also repainted this year in several schools to ensure very high standards of maintenance throughout the NGS System.

In all, the program renovated and furnished 31 new facilities this year including Science labs (4), ICT Labs (3), and new Student Clinics (2) as well as other rooms. These investments are summarized in Table 3.11 below and add to investments in 212 other facilities that had already been completed up until the end of 2019. Some of the facilities renovated this year are only being furnished as renovations are not necessary due to parallel investments in infrastructure by different donors (e.g., JICA at Prek Leap HS). However, all rooms

Renewed Modernization Efforts in Schools Get Under Way: *Workers begin the emplacement of new ceilings at a dilapi-dated building at Akhea Mahsei PS in Kampong Speu (above); Idealized view of landscaping at Prek Leap HS in Phnom Penh*

have been re-furnished using modern 'minimalist' designs recommended in recently completed NGS architectural guidelines (see Section 3.11).

Table 3.11: Status of Infrastructure Renovations in 2020

School	Facilities Renovated										Total	
	Non-science Classrooms	Science Labs	ICT Labs	Offices	Library	Bathroom	Wall painting (m2)	Clinics	Auditorium	Landscape (m2)	N	(m2)
Preah Sisovath HS	--	--	--	--	--	1	--	1*	--	--	2	0
Hun Sen Kampong Cham HS	--	--	--	--	--	--	--	--	--	--	0	0
Prek Leap HS	4	3	1				402	1	1		10	402
Prek Anchanh HS	2	4	--	--	--	--	722.5	1	--	--	7	722.5
Peam Chikong HS	2	--	--	2	--	1	517.13	--	--	--	5	517.13
Angkor Ban PS	--	--	1	--	--	--	--	--	--	692.5	1	692.5
Akhea Mahasei PS	5	--	1	--	--	--	--	--	--	--	6	0
Demonstration School (Kg Cham)	--	--	--	--	--	--	--	--	--	--	0	0
Total	**13**	**7**	**3**	**2**	**0**	**2**	**1,641.63**	**3**	**1**	**692.5**	**31**	**2,334.13**

Since it started, the New Generation School Initiative has made a huge investment in modern design and infrastructure in the NGS System (see Box 7 below). In this respect, the program reports that a total 247 facilities have so far been modernized and/or redesigned since investments began in 2016, inclusive of those that were made in 2020 (see Table 3.12). Through budget savings, even more facilities have sometimes been completed than were originally planned (e.g., Offices and Youth Centers). To date, the NGS Initiative has completed 99% of the facilities that have so far been proposed during the last five years. Areas of future planned

Table 3.12: Proposed & Completed Facilities in NGS Sites, FY2016 to FY2020 (MoEYS Funded)

Investment Area	Number Proposed 2016-20	Number Established 2016-20	%
Secondary School Sector (5 schools)			
NGS Classrooms	94	85	90%
Science Labs	41	46	112%
ICT Labs*	13	14	108%
21st Century Libraries*	5	5	100%
Auditorium	5	4	80%
Office/Meeting/Faculty Rooms	13	15	115%
Canteen*	5	1	20%
Student Clinic*	5	4	80%
Youth Centers*	4	5	125%
Total Facilities	**185**	**179**	**98%**
Primary School Sector (3 schools)			
NGS Classrooms	45	52	116%
Science Labs	0	0	0%
ICT Labs	2	2	100%
21st Century Libraries	2	2	100%
Office/Meeting/Faculty Rooms	2	2	100%
Auditorium	1	0	0%
Canteen	--	--	--
Student Clinic	--	--	--
Youth Centers	--	--	--
Toilet Facilities	13	10	77%
Total Facilities	**65**	**68**	**105%**
Facilities at All Levels	**250**	**247**	**99%**

*Facilities sometimes shared with Primary Schools

investment include the need for more canteens, student clinics, and auditoriums.

Box 7: Examples of New Educational Design
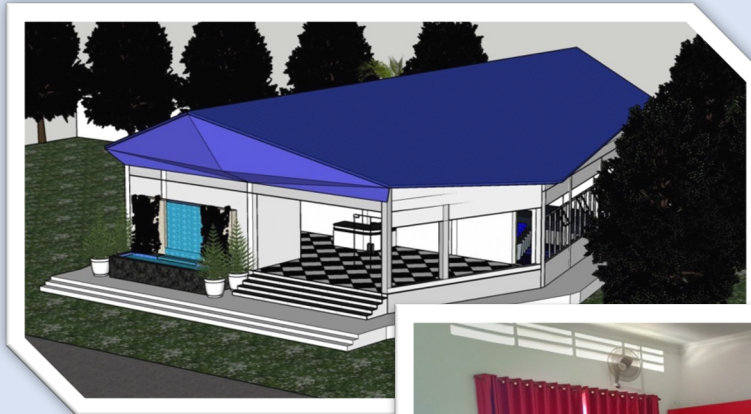
← **Modern Auditorium:** *A new free-standing auditorium will be nearing completion at Prek Leap HS in 2021. The auditorium employs modern design, comfortable seating, as well as high tech projection and sound systems.*

Color Coded Classrooms: *The program continues to emplace modern classroom environments with attractive color designs and light desks and chairs that can easily be moved to form appropriate configurations for group work and discussions.* ➔

← **Modern Library Design**: *The NGS Program has developed multiple library designs that employ modern configurations promoting the use of audio-visual equipment, m-learning services, group work, and online research.*

Modern Science Labs: *The emplacement of science labs that can accommodate 30 to 35 students continues to be a high priority in infrastructure investment in the NGS Program. The labs use sleek designs that are low-cost and promote hands-on science and practical experimentation.* ➔

3.15 Development of Mathematics Toolkits at Secondary School Level

During the year, program planners also organized Public Private Partnership collaborations by linking mathematics teachers working in New Generation Secondary Schools with a social enterprise called *Thontean Obrom* or TTO. TTO is engaged in the production of teaching aids and self-study games for Cambodian children and youth. These games are colorful and creative and are developed in Khmer Language to suit the national context. The partnership with TTO in this particular context is intended to help schools address the very high rate of failure among Cambodian youth in Mathematics during the

Bac II Examination. In this regard, MoEYS has reported that 77% of students taking the Math Exam failed in 2019 (see Figure 3.1 for national pass rates). This is a huge failure rate. Although the pass rate in New Generation Schools is much higher than the rest of the country, it could still be improved. The collaboration with TTO is intended to help the NGS System develop a Mathematics Toolkit for secondary school level students. During the year, one toolkit was provided to each NGS classroom.

During multiple meetings in June and July 2020 with about 10 Mathematics teachers from all New Generation Schools as well as a representative from the *New Generation Pedagogical Research Center,* a toolkit with over 20 math games and specialized teaching aids was completed. In general, these games and materials can be used with multiple lessons and topics and are designed to encourage cooperative learning and group work.

The math toolkits designed by NGS teachers will be mass produced by TTO and provided to all schools within the NGS system as it expands under current planning. The availability of these official math toolkits designed for secondary school students may also have additional knock-on effects for the rest of the education system, as these kits will be available for use in other non-NGS schools. Such knock-on effects demonstrate the great value of NGS investment not only for the students studying in such facilities but for the rest of the education system as well.

Secondary School Math Toolkit Development: Teachers work with TTO technicians to develop learning aid prototypes (above); Some samples of new learning aids developed by TTO (left).

3.16 Development of a New Pedagogical Framework for NGS and the Kingdom

In September 2025, the Minister of Education, Youth, and Sport requested the NGS Program to assist in synthesizing a new pedagogical framework that could accommodate all of the competing teaching methodologies (e.g., Problem-based Learning, Cooperative Learning, etc.) that are currently in circulation in Cambodia's education system. A key goal in this regard was to help educators relate these competing methodologies to Concept-based Learning, which refers to a new general strategy recently introduced by MoEYS. The Minister requested the development of such a framework in a very accelerated time frame so that it could be used at several upcoming national workshops to be hosted by the Teacher Training Department (TTD) and the Department of Curriculum Development (DCD). The NGS Central Office was able to complete this document in record time and a first draft was submitted to MoEYS in November 2020. The document will be reviewed at upcoming national workshops and finalized early in 2021. The completion of this task has not only had great value for Cambodia's national education system but has also helped the NGS System itself as well because it helped educators working in NGS sites to both systematize and rationalize the various methodologies currently in use in supported schools.
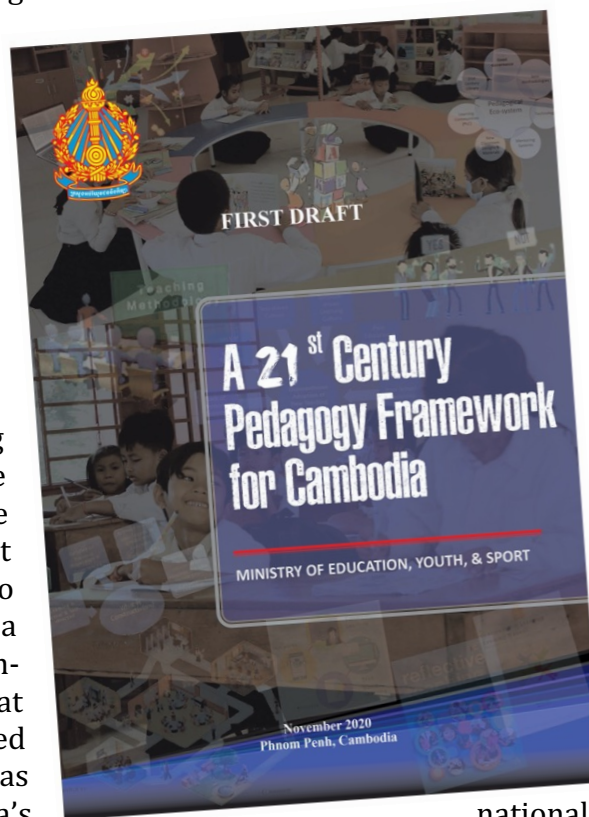
3.17 International and National Student Awards

Providing students with the opportunity to participate in national and international academic competitions is another key metric in the project's assessment that provides some indication of its effectiveness. Participating in such contests promotes project work, which is a key strategy to promote critical and creative thinking in the program. Working towards this metric, however, has been difficult this year due to the obstacles imposed by the pandemic, which has constrained both domestic and most certainly international travel. Indeed, many academic forums abroad have been cancelled due to the fear of community spread. Thus, achievements in this area have been less than in previous years when NGS students often won between 500 to 700 medals each year. Nevertheless, and in spite of the above constraints, New Generation Schools were still able to participate in numerous competitions and won a total of 163 medals and awards during 2020 (see Table 3.13). While many of these awards were won by Preah Sisovath HS students (90 out of 109), there were still a large number of students from other schools that are also showing promising signs of being able to compete in such academic forums, where knowledge of the English language is often a key pre-requisite. The lower levels of English proficiency in NGS sites outside of Phnom Penh continues to be one area NGS sites in the provinces still struggle.

Table 3.13: Number of International and National Awards in New Generation Schools, 2020

School Name	Students and Awards	General Awards	Certificates of Achievement	Gold Medal	Silver Medal	Bronze Medal	Total
Preah Sisovath HS	Number of Students	12	9	15	21	33	90
	Number of Awards	14	24	24	31	45	136
Hun Sen Kampong Cham HS	Number of Students	--	11	--	--	--	11
	Number of Awards	--	11	--	--	--	11
Prek Leap HS	Number of Students	--	3	--	--	--	3
	Number of Awards	--	3	--	--	--	3
Prek Anchanh HS	Number of Students	--	--	--	--	--	--
	Number of Awards	--	--	--	--	--	--
Peam Chikong HS	Number of Students	--	5	--	--	--	5
	Number of Awards	--	11	--	--	--	11
Kok Pring HS	Number of Students	--	--	--	--	--	--
	Number of Awards	--	--	--	--	--	--
Demonstration PS	Number of Students	--	--	--	--	--	--
	Number of Awards	--	--	--	--	--	--
Total	**Number of Students**	**12**	**28**	**15**	**21**	**33**	**109**
	Number of Awards	**14**	**49**	**24**	**31**	**45**	**163**

3.18 Declining Unit Costs at Accredited Schools and Planning for Sustainability

Unit Cost Analysis: The unit costs for NGS investment are an area of great importance that have been misrepresented in some recent publications. Unit costs for NGS emplacement have sometimes been misunderstood because researchers have not distinguished between recurrent running costs and one-time investments for capital expenditures. The analysis presented below helps to provide a more accurate overview of how unit costs have been declining at New Generation Schools as the accreditation process accelerates and parents enthusiastically increase their financial support. The calculation of unit costs in this report has focused on Preah Sisovath HS, as this school has received perhaps the most investment of any New Generation School so far and over the longest period of time (i.e., five years including 2020). Expenditures at Preah Sisovath HS have ranged between $400,000 and $500,000 per year over the last several years though more than half of this cost has now been shifted to parents, since the school received its accreditation in 2017.

As noted above, unit cost estimates for NGS investment are best understood when considering both recurrent running costs as well as capital expenditure costs (see Box 8).

Using the narrowest estimation of costs (i.e., those that primarily comprise recurrent expenditures), unit costs at Preah Sisovath HS now stand at **$211** per student, having dropped from almost $352 per student at

Box 8: Definition of Unit Costs
1. *Recurrent Costs plus Capex* includes all direct running costs (e.g., teacher incentives, utilities, software licenses, consumable materials, etc.) and capital expenditures (e.g., infrastructure renovations, furniture, and equipment)

2. *Recurrent Costs Only* refers to direct running costs of the school only without layouts for capital expenditure.

the start of investment in 2016 (see Figure 3.2). Support costs that include both capital expenditure and recurrent costs are not much different from those involving recurrent costs alone and now stand at **$230** per student in 2020. Importantly, these costs have dropped from $515 per student at the start of investment. This convergence in unit costs stems mainly from the decline in capital expenditure.

Figure 3.2: Change in Unit Costs at Preah Sisovath HS, 2016-19

	2016-17	2017-18	2018-19	2019-20
Recurrent & Capex Costs	515	349	267	230
Recurrent Costs Only	352	336	252	212
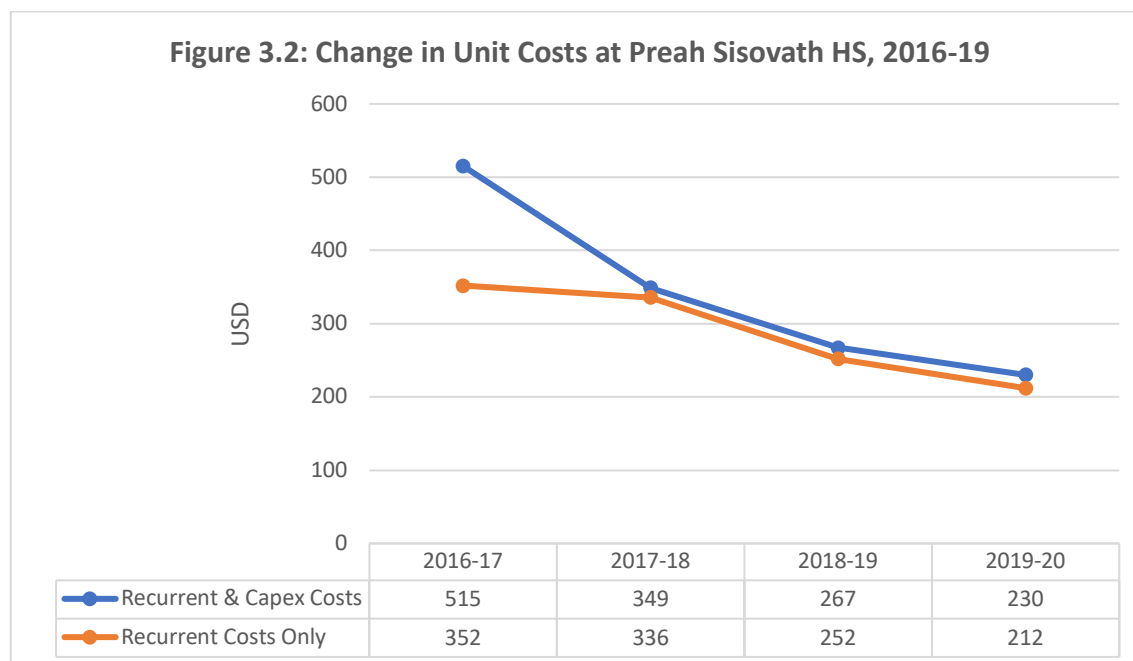
In all cases, the direction of unit costs appears to be downwards (see Figure 3.2). These trends also appear to be helped along by increasing enrolment at Preah Sisovath HS as well as the diminution of capital expenditures, as noted above. The high unit costs reported for NGS investment are sometimes misrepresented by failing to mention that capex costs are diminishing while enrollment is increasing.

Future Vision for Investment: MoEYS' expectation is that unit costs will stabilize at their current levels but will likely decline further for government as parents continue to make major contributions to running the school and maintaining the standards required for continued accreditation. Indeed, the adherence to accreditation standards is the key strategy employed by NGS reforms to ensure that investments (and educational quality) do not become diluted as programming moves forward. This is why NGS is not thought of as a time-bound 'project' but rather as an open-ended educational reform.

KAPE's role in helping MoEYS to support mature New Generation Schools such as Sisovath HS will also likely evolve to promote a process of renewal to ensure that educational programming continues to be dynamic and not static. For example, KAPE will continue to support all New Generation Schools as they emplace school-based mentoring systems linked to the recently established *New Generation Pedagogical Research Center (NGPRC)* at the National Institute of Education (see Section 3.12). As noted earlier, this mentoring system will be a major step towards sustaining high quality human resources at all New Generation Schools. Links between Sisovath HS and NGPRC will also start to generate empirical research about what works best in the Cambodian context, creating

for the first time a locally grown body of evidentiary data that can inform policy and re-form. This body of research will also provide highly useful data for training institutions such as NIE and Teacher Education Centers. Indeed, KAPE has already helped the NGPRC procure private research funding to support an empirical evaluation of the new mentor-ing system leading to the first of many peer-reviewed scholarly research publications generated by the Center.[20]

Maintaining the dynamism of New Generation Schools such as Preah Sisovath HS will likely focus heavily on employing technology and software in new and innovative ways, as the global education system continues to evolve and change rapidly. Tech support from KAPE and other Non-state Actors will hopefully help MoEYS to maintain New Generation Schools as nurseries for educational innovation that is contextualized to the Cambodian situation.

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[20] KAPE has helped the NGPRC to apply to the *Ponlok Chamnaes* Research Fund for a small research grant that will be the first of many research grants that the centers receives.

NGS Programming at Preschool and Primary Level

3.19 Progress on the Development of New Generation Preschools

Although MoEYS has so far been unsuccessful in procuring funds to establish New Generation Pre-schools (NGPS), KAPE has sought to assist the Ministry in this regard by identifying private funds to jump-start activity in this sub-sector. These funds are currently being provided by the *Phoenix Foundation* and are being used to create new physical designs for a modern preschool setting as well as technical assistance to support the development of specialized guidelines for teaching and learning in NGS-style preschool environments. These preschool investments are being made in three primary schools in Kampong Cham and Tbaung Khmum Provinces and will provide a good foundation for MoEYS to fund replication in Angkor Ban PS, as currently planned.

New Generation Preschool Design: Recently developed designs for a new kind of preschool are being readied for implementation at the end of 2020. Under the new design, children will have access to multiple zones for study as well as electronic devices for digital learning

3.20 Progress on Emplacement of NGS Programming at New Primary Schools

There are currently four primary schools in the NGS System, which are each at very different levels of development. Only one primary school has so far been accredited (i.e., Demonstration School of Kampong Cham). Primary schools are expected to adhere to the same high educational standards as secondary schools. It is expected that two more primary schools will become accredited next year (i.e., Akhea Mahasei PS and Angkor Ban PS) following the completion of their 3-year investment cycle. A fourth school (Svay Prahuot PS in Svay Rieng) is still awaiting a re-commencement of investment by Child Fund following a recent resolution of a lack of classrooms at the school. A summary of some of the progress at each school up to the present time is provided in Table 3.14 below.

Table 3.14: Status of Development at New Generation Primary School Level in 2020

Description of Progress and Status	Accreditation Status
Demonstration School	
General Progress: The school has been accredited for two successive years and demonstrates very high standards of performance as per NGS guidelines. Students receive two hours of ICT instruction each week as well as intensive English. Teachers have been highly active in developing archival videos during the period of Covid19 closure and student engagement has also been reasonably high. The school was recently accredited for a third time at the end of 2020. **Current Grade Coverage:** Grades 1 to 6 (13 classes)	Accredited

Description of Progress and Status	Accred-itation Status
Teacher Activity: Teachers have shown very high levels of compliance with educational standards and have also been very active in the development of online learning for students during the period of school closure. Indeed, the school has produced about 193 archival videos that have been shared with students online **Infrastructure Investment:** The available infrastructure at the school is already at a very high standard and no new investment is currently planned. A new building was provided to the school through a grant from the Chinese government and will become operational in 2021. This building will provide 8 additional classrooms. *Main Academic Cluster at Demonstration School* ↑	
Angkor Ban PS	
General Progress: Angkor Ban PS has shown dramatic progress as a New Generation School in spite of the fact that it is greatly handicapped by its very rural setting (and lack of internet). Nevertheless, the school has shown good levels of management and high teacher engagement in the NGS program. **Current Grade Coverage:** Grades 1 to 6 (10 classes) **Online Education:** Due to the poor internet access in the local area and the observation that most families do not possess mobile smartphones, the school has not been able to mount an online education program. **Teacher Activity:** The addition of new teachers who tend to be younger has helped the school to rapidly integrate ICT in instruction. The demonstrates high rates of library utilization and the use of new methodologies in teaching. **Infrastructure Investment:** The school has received a new two-story building provided by MoEYS that almost doubles the capacity of the school.	Planned for 2021

Description of Progress and Status	Accred-itation Status
Recently renovated classroom building at Angkor Ban PS ⬆	
Akhea Mahasei PS	
General Progress: Akhea Mahasei PS has demonstrated very strong management and community support. Because of the size of the school, it has been adding grade levels to the NGS program gradually. In the 2020-21 academic year, it will start to provide service to Grade 4 students, leaving only two grades left before reaching full coverage. More rapid expansion has been hindered by the lack of buildings, since NGS programming requires that children study both morning and afternoon; however, this problem seems to have recently been resolved with a major investment in a new building by MoEYS. **Current Grade Coverage:** Grades 1 to 4 (28 classes) **Online Education:** Teachers at the school have been highly active in developing electronic lessons for students to use but have since had to move to more conventional channels of outreach due to the lack of internet access in the catchment area.	Planned for 2021

Description of Progress and Status	Accred-itation Status
New 3-story classroom structure at Akhea Mahsei PS ⬈ **Teacher Activity:** The majority of teachers at this school tend to be very young and have demonstrated marked ability to integrate the use of ICT devices into their instruction. Monitors give high marks for high standards of classroom in-struction. **Infrastructure Investment:** The construction department just recently completed building a 3-story building at the school, which will greatly expand its capacity and facilitate continued expansion in grade coverage to new grades.	
Svay Prahuot PS	
General Progress: Investment at Svay Prahuot was mostly suspended by Child Fund due to the lack of classroom space to teach for a full day. An external assessment of the school noted that most teachers were not working a full day even though they were being paid to do so. With the addition of a new building, Child Fund may opt to recommence invest-ment at the school starting in 2021. If so, this may facilitate planning to accredit the school by the end of 2022, as cur-rently planned. **Current Grade Coverage:** Grades 1 to 6 (12 classes) **Online Education:** Due to the poor internet access in the local area and the observation that most families do not pos-sess mobile smartphones, the school has not been able to mount an online education program. **Teacher Activity:** With the suspension of development assistance from Child Fund, capacity development activities for teachers have been less frequent. Nevertheless, enough was done before the suspension of assistance to ensure that there is a strong foundation on which to build when capacity building activities recommence. **Infrastructure Investment:** The provision of a new two-story classroom building for secondary school classes by the POE may free up space for the primary school to move to a full-day shift once again. *Recreational gardens and cultural center at Svay Brahuot PS* ⬈	Planned for 2022

3.21 Early Grade Reading Assessment Results in New Generation Primary Schools

One of the services provided by KAPE to the New Generation School program is the administration of EGRA testing using the same *Tangerine* software used in the National Reading Program. In spite of school disruptions during the Covid19 pandemic, test proctors were able to administer a midline assessment by the end of 2020. Although schools were closed during much of the year, New

Box 9: National Reading Standards
- MoEYS expects children to read text at a standard of 45 WPM by the end of Grade 3.
- MoEYS expects children to read text at a standard of 100 WPM by the end of Grade 6.

Generation Primary Schools were still very active in animating their academic program through multiple channels including online programming, continuously open libraries (even during school closure), and distance education. In spite of the obstacles posed by the pandemic, reading scores were nevertheless still excellent at all grade levels, as can be seen by the results shown in Table 3.15. For example, NGS students evinced very few Zero Scores at all levels and exceeded the National Reading Standard at Grade 3 by a margin of almost two (cf. Oral Reading Fluency). In this respect, children in NGS schools are reading at a rate of 71 correct words per minute (CWPM) against a national standard of 45 CWPM (see Box 9). They also registered a Reading Comprehension score of 65% (i.e., 3.25 questions out of 5) at Grade 2 and 81% by the end of Grade 3 (i.e., 4.04 questions out of 5), which as an average score is excellent.

Table 3.15: EGRA Testing Outcomes in NGS Primary Schools

Grade	Students Tested (N)	Conso-nant Name identifi-cation (CNI)	CNI Zero Score (n)	Vowel Name identi-fica-tion (VNI)	VNI Zero Score (n)	Letter name identifi-cation (CLNPM)	LNI Zero Score (n)	Familiar Word Reading (CWPM)	FWR Zero Score (n)	Oral Reading Fluency (CWPM)	ORF Zero Score (n)	Reading Com-prehension (Correct out of 5)	COMP Zero Score (n)
Grade 1	59	25.76	0.00	15.83	1.00	23.66	1	14.81	18	14.24	27	1.37	29
Grade 2	72	30.46	0.00	19.63	0.00	35.82	0	36.11	4	47.85	6	3.25	6
Grade 3	74	31.14	0.00	18.84	0.00	42.68	0	51.51	0	70.92	0	4.04	0
Grand Total	205	29.35	0.00	18.25	1.00	34.80	1	35.54	22	46.50	33	3.00	35
Total Zero Scores (%)			0%		0%		0%		11%		16%		17%

The excellent level of performance in NGS can be better appreciated when seen against the performance levels in national reading programs. For example, NGS students registered a mean score for Letter Name Identification that was 1.9 times greater than children in the national program, 5.7 times greater for Familiar Word Reading, and 10.9 times greater for Oral Reading Fluency (see Table 3.16). These are truly excellent levels of performance especially when one considers that this was achieved against the backdrop of the Covid19 pandemic.

Table 3.16: Comparative Analysis of EGRA Scores in New Generation Schools and the National Reading Program (Grade 1 Children) (N=59)

Sub-task	New Generation School Programming		National Reading Program	
	Mean	*Zero Scores*	*Mean*	*Zero Scores*
Letter Name Identification *(letters per minute)*	23.7	0%	12.5	11.9%
Familiar Word Reading *(words per minute)*	14.8	31%	2.6	66%
Oral Reading Fluency *(words per minute)*	14.2	46%	1.3	82%

Programming at the New Generation Pedagogical Research Center

3.22 Graduation of the First Cohort of Mentors and New Intake

The New Generation Pedagogical Research Center opened its doors in September 2019 and admitted 25 Master Degree Candidates who were rigorously selected from among 150 applicants. These candidates entered the Center's intensive training program that employs innovative modes of learning including online learning and small seminar-style classes of not more than 15 students in very modern facilities. These candidates earned Cambodia's first *Master's Degree of Education in Teacher Mentoring* in a ceremony that was led by H.E. Dr. Hang Chuon Naron, Minister of Education Youth, and Sport. This was an important milestone event for both the Center and the National Institute of Education, as these are the first Master's Degree candidates to graduate from the Center (and the Institute). It is hoped that more will follow.

The NGPRC's Master's Degree Program in Mentoring is a unique program not only in Cambodia but in the Southeast Asia Region. All 25 candidates received their degrees in September 2020 at NIE. As noted above, they are the first students ever awarded a Master's Degree by NIE, which marks a significant upgrade in the Institute's status. With continued financial backing from MoEYS, KAPE has already supported the Center to organize successive waves of new intakes at the NGPRC to staff newly created positions for school-based mentors in New Generation Schools, as NGS re-

Proud Day: *NGPRC graduates and faculty pose with the Minister of Education, Youth, and Sport and the Secretary of State at a graduation ceremony in which all candidates received their Master's Degree in Education for Mentoring.*

forms continue to expand. For the 2020-21 academic year, the Center has already recruited a new cohort of 32 students who were matriculated into the Master's Degree Program in September 2020.

KAPE believes that MoEYS' support of the Center will help to drive new educational innovations throughout Cambodia's education system. This includes planned inputs for the *Upper Secondary Education – Sector Development Program* (funded by the Asian Development Bank and RCG), which may also be sending promising individuals recruited from Secondary Resource Schools (SRS) to study there either in short 4-month courses in mentoring or in the longer one-year Master's Degree Program. KAPE is currently using its technical role in USE-SDP to forge links between the project and NGPRC so that the

project can pilot the use of mentors in schools to better help in the animation of resource centers in each SRS.

3.23 All Master's Degree Classes Moved to Online Learning Format

When all educational institutions in Cambodia were closed on 17 March 2020 due to the Covid19 Pandemic, all classes at the National Institute of Education also had to be suspended including the NGPRC's Master's Degree Program in Mentoring. This required the reconfiguration of the Master's Degree Course to follow a completely online format starting from the end of March 2020. Given the strong focus on the use of ICT in education at the Center, instructors had the capacity to quickly move all learning to an online format ensuring that candidates could continue studying the required coursework and assignments. Indeed, course work at the Center was the only venue at NIE where learning activities were actually able to continue while the rest of the Institute had to shut down until the re-opening of schools in November 2020. Thus, it was possible for all candidates to complete their courses and receive their degrees on schedule as planned.

3.24 Organization of the First International Conference on Mentoring at NIE

One of the major accomplishments achieved in 2020 by the NGPRC was the organization and administration of *Cambodia's 1st International Conference on Mentoring Educators (CICME).* The aims of the conference focused heavily on continuous professional development issues, and particularly as these relate to teacher mentoring (see Box 10). Organizing such international conferences is highly relevant to MoEYS' expectation that the emplacement of NGPRC on the campus of the National Institute of Education (NIE) would help the Institute to upgrade its standing as a place of cutting-edge educational ideas. During the preparation of the conference, NIE Leadership was closely involved in helping the Center to host the event, thereby helping to build its institutional capacity.

Although the Conference was originally scheduled for August 2020, it had to be postponed till 21-23 December 2020 due to the Covid19 Pandemic and then only using a virtual format. Indeed, this may have been Cambodia's first fully virtual international conference. Nevertheless, the Conference reached a very large international audience and featured 66 academic

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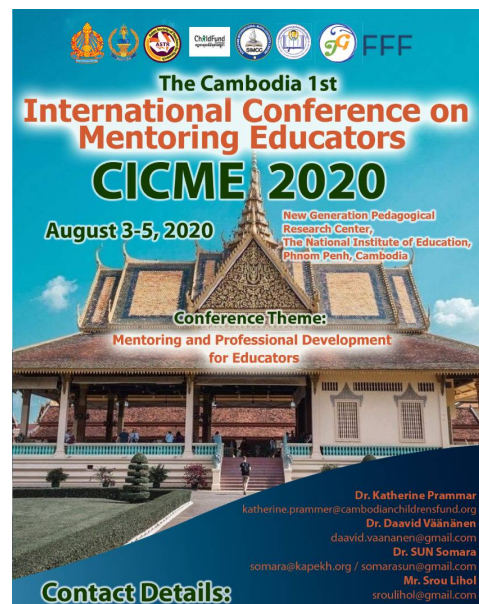
Box 10: Aims of the Cambodia International Conference on Mentoring Educators

1. To provide a forum for research findings from the international community;
2. To introduce new pathways to excellence in education through action and innovation;
3. To share best teaching practices and use research findings to solve school problems;
4. To share mentoring experiences and skills;
5. To establish partnership and collaborations between researchers across the globe;
6. To disseminate results of thesis/dissertation activities in tertiary education; and
7. To draw new perspectives in solving educational and organizational problems and issues.

speakers who joined the proceedings with the latest research on teacher mentoring. The Conference also featured key note speakers with national standing including H.E. Dr. Hang Chuon Naron, Minister of Education, Youth, & Sport. The CICME represents the first time that NIE has ever organized an international conference in its history. This achievement hopefully marks a turning point in which the Institute's status and reputation will begin an upward trajectory matching its status as Cambodia's most senior training institute. KAPE expects that this conference will become a regular feature of the NIE schedule and will help to cement the growing reputation of both the Center and the Institute as leaders in educational innovation.

3.25 Research Grants Received by the NGPRC

As its name implies, the New Generation Pedagogical Research Center has an important mandate to generate research evidence relating to the effectiveness of NGS innovations so that all programming has a sound empirical grounding. Thus, the Center not only trains mentors but also conducts empirical research to better inform the training of those mentors. Accordingly, the Center launched an ambitious research program during the year with a grant from *The Asia Foundation.*[21] The overall aim of the grant is to assess the effectiveness of the mentoring program implemented by the NGPRC in order to improve its programming based on empirical evidence generated by the assessment. As soon as the schools reopen, the research team supported by the Centre will assess the effectiveness of mentoring in the NGS sites where NGPRC graduates have been posted. Eventually, the protocol governing the placement of mentors will be improved based on this research and extended to other schools where mentoring is to occur. The aim is to better understand the needs of Cambodian teachers in terms of their continuous professional development, to facilitate the work of newly graduated mentors, and to refine the syllabus of the Center (which has a major research component) on a yearly basis. A research report based on the research will be published by the Center early in 2021.

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[21] The research grant received by the Center is part of a program called *Ponlok Chamnaes.* The program is managed by The Asia Foundation and funded by the Australian Government. The total research grant was $15,000.

4. PROGRESS ON OFFICIAL INDICATORS

The NGS Program is required to report on 20 official performance indicators 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. Of these 20 indicators, the program has so far been able to report that 90% have been fully achieved while two are still pending or in progress (see Table 4.1). This is an improvement from last year when indicator achievement was reported to be 80%. One important achievement milestone that was achieved this year (but not last year) was an expectation that student dropout would drop below 5% in all accredited schools. This year, all schools reported achieving this performance indicator. The overall dropout rate across all schools was only 3% compared to the national average of 16% for lower secondary school and 17% for upper secondary.

Performance indicators that have not yet been achieved relate to the accreditation of all schools (to be achieved by 2022) and the midline administration of critical thinking tests, which had to be cancelled in 2020 due to the Covid19 Pandemic. It is expected that the program will have achieved all performance indicators for reporting to MoEYS-MoEF by 2021 or 2022 at the latest.

Table 4.1: Summary of Results-based Indicators for MoEYS Reporting, 2020

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	10	83%	0	0%	2	17%
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**	**18**	**90%**	**0**	**0%**	**2**	**10%**

5. CHALLENGES AND ISSUES IN IMPLEMENTATION

5.1 The Extended Closure of Schools

The closure of schools due to the Covid19 crisis has been quite disruptive to NGS programming this year. In addition to regular classes, the program has had to either cease or curtail all programming relating to such major events as Parents' Night Shows and associated project work, preparation for the *Bac II Examination,* participation in international competitions, life skills activities, exposure visits, student club activities, accreditation visits, and other activities. All of this will have the effect of greatly setting back students' learning, particularly for Grade 12 students who are concerned that they will have had adequate preparation to attend university. In spite of these obstacles, however, school libraries remained open and all but one secondary school have developed and implemented an extensive online education program to ensure that learning does not completely cease. But as the figures in Table 3.4 demonstrate (see above), student participation in online education activities only ranges from 49% to 74%, suggesting that a large number of secondary school students, particularly at primary school level, are not able to learn through the learning channels established.

5.2 Increasing Investment in Online Education

The Covid19 pandemic has heightened the need to use other communication channels for educational instruction that move beyond the classroom. The pandemic may actually accelerate pre-pandemic planning to consider *'Flipped-Classroom'* learning arrangements (see Box 11) in which part of students' learning occurs in a dynamic way outside of the classroom (e.g., at the library, at home, etc.) where they do research, project work, or other learning tasks. This planning is already far advanced at some New Generation Schools such as Preah Sisovath HS and will most certainly occur at additional New Generation Schools in more urbanized environments. However, the lack of internet service and the poor penetration of mobile devices in more rural areas such as Peam Chikong HS in Kampong Cham and Kok Pring HS in Svay Rieng pose more of a problem. These obstacles have greatly impacted online learning in these schools already. NGS Programmers will consider ways to address these problems that may include increasing the availability of

Box 11: What is a Flipped Classroom?

A Flipped Classroom refers to a "pedagogical approach in which direct instruction moves from the group learning space of the classroom to the individual learning space and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter."

Box 12: How Offline Hubs Work

Offline hubs are devices that enable local stakeholders to use an intranet network connection to access educational materials at high speed at no cost. Such hubs will enable students and teachers to download information (at the school as a hub) for free and work offline. This intervention involves the use of 'Raspberry Pi' devices so the hub can store selected content. At the same time, the school can update content frequently on a bi-weekly or monthly basis by bringing the device to any place with an internet connection. This proposed technology can work in remote areas as long as the teachers and students have a smart phone. However, the implementation of this intervention will require developing a specialized mobile app to enable the linkage between stakeholders' phones and the hardware device. This would be scalable to hundreds of schools in the long-term.

mobile devices at schools[22] (e.g., for borrowing) and installing *Offline Content Hubs* (see Box 12) at schools so that teachers and students can download materials from the internet even in locations where internet service is both expensive and limited.

5.3 The Status of Accredited but Unsupported Schools

There continue to be several schools in the NGS system that have been accredited but which are still not receiving any direct support from MoEYS. This includes Kok Pring HS in Svay Rieng Province and the Demonstration School (a primary school) in Kampong Cham Province. Both schools achieved their accreditation in 2019, which was a major milestone in their development. Currently, Kok Pring HS is supported by Child Fund Australia while the Demonstration School is self-supporting with parental donations (though it also benefits from sharing the same facilities as Hun Sen Kampong Cham HS where it shares the same compound. Nevertheless, according to MoEYS' New Generation School Policy, any accredited NGS institution is entitled to direct support from the government, at least for those students whose parents are unable to pay any voluntary support fees through the *Social Equity Fund* concept. However, within the context of frozen levels of funding for NGS programming, it has not been possible to adhere to this provision in the policy. KAPE and Child Fund Australia have both been advocating for about $15,000 (60 million CR) in annual support for each school but without success at this time. And given the collapse in government revenues due to the Covid19 crisis, it is unlikely that government is going to be able to expand the NGS budget any time soon to accommodate this need.

5.4 Teacher Resistance to Joining NGS at Prek Leap, Prek Anchanh, & Peam Chikong HS

As Prek Leap and Prek Anchanh High Schools prepare to expand to Grade 11 in the 2020-21 academic year, they will be encountering a hard-core group of teachers at the higher grade levels who are quite wedded to a 'rien kua' mentality as the *raison d'etre* of their teaching. Outreach to these teachers to voluntarily join the program has so far not been very successful. In this respect, only 4% of the teachers at Prek Leap have volunteered to join the program while 13% of teachers at Prek Anchanh have volunteered to do so (see Table 5.1). The primary reason for their unwillingness to join the growing New Generation School program is that NGS Policy Guidelines require them to give up their private 'rien kua' classes, which they refuse to do, even though they would receive an incentive to partially compensate them.

Table 5.1: Anticipated Teacher Needs for Grade 11 in Prek Leap & Prek Anchan HS, 2020

School Name	Total Teachers Needed for Grade 11	Teachers Currently Teaching Grades 11 & 12	Teachers in Grade 11 Who Agree to Join NGS	%	Additional Teachers That Need to be Recruited
Prek Leap HS	15	47	2	4%	13
Prek Anchanh HS	13	23	3	13%	10
Total	**28**	**70**	**5**	**7%**	**23**

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[22] New Generation Schools generally receive about 60 tablets or other mobile devices for storage in the library as part of the standard investment package in each school.

A similar problem can be found at Peam Chikong HS where the school is expanding to Grade 10 in the 2020-21 academic year (see Table 5.2). At Peam Chikong HS, only 8% of upper secondary school teachers have volunteered to join the program.

Table 5.2: Anticipated Teacher Needs for Grade 10 in Hun Sen Peam Chikorng HS, 2020

School Name	Total Teachers Needed for Grade 10	Teachers Currently Teaching Grades 10-12	Teachers in Grade 10 Who Agree to Join NGS	%	Additional Teachers That Need to be Recruited
Hun Sen Peam Chikorng HS	14	52	4	8%	10

There is no easy solution to this problem, since forced compliance will not work. The New Generation School System only wants teachers at each school who want to be there, not those who are forced to do so, since such individuals, with their bad practices, could potentially undermine the whole culture of professional behavior at the school. The only solution is to recruit teachers from outside of the school to fuel the expansion while encouraging non-compliant teachers to transfer to other schools. At some point when all grades are covered by the program, these teachers will be redundant and will have no classes to teach, creating an incentive for them to move.

5.5 Misrepresentation of NGS Unit Costs

As noted in Section 3, recurrent unit costs are declining at accredited schools within the New Generation School System, particularly as parents start to pick up more and more of the costs. Nevertheless, some development partners have recently issued publications that maintain the fiction that New Generation Schools entail continuously high unit costs, when in fact these are declining in most schools where capital expenditures have been completed. The fiction that New Generation Schools are too expensive to replicate is one of the primary arguments against additional investment to expand the model to other locations. It is, therefore, important for NGS advocates to push back against this misinformation and better inform development partners and members of the general public about the true nature of the unit costs entailed by this educational reform.

5.6 Sustaining NGS Financial Operation without External Credits

Each year, KAPE arranges intermediate credits from the Franks Family Foundation to keep programming running without interruption during the period January to May of each year. During this time, the NGS grant that KAPE receives from MoEYS to run the program is being processed and is generally released in June of each year. Usually, KAPE needs at least $400,000 or more to sustain operations during this period (at current levels of programming). The credits provided by FFF are interest-free and are returned to the Foundation in the UK when government funds arrive. This arrangement is now in its fourth year. It is clear that the Foundation will not be able to provide such support indefinitely, requiring the NGS system to find alternative arrangements to sustain operations during the long-period when the release of government funds is being processed. To some degree, the accreditation of schools linked to parental contributions will reduce the need for external support at the beginning of the year but this problem will continue should any new NGS institutions be added to the current system, as is currently planned.

KAPE has proposed the establishment of an NGS Endowment Fund to address this issue but the proposed system will need considerable discussion before its emplacement can be realized.

6. CONCLUSIONS

Key Achievements: The implementation of New Generation School Reforms has been a bright spot in MoEYS' efforts to improve educational quality. Between 2015 and 2019, MoEYS had invested about $4.8 million in the NGS system for school modernization as well as policy and curriculum development. By 2020, this figure had increased to $7.4 million. The investment in these schools has not disappointed and the NGS System has reported very encouraging outcomes on a number of important metrics including very high pass rates on the national *Bac II Examination*, high transition rates to university, very low dropout rates, exceptional reading proficiency, an accelerating rate of school accreditation, and high professional standards among teachers (see Table 6.1). Many of these indicators move beyond test scores and demonstrate the ability of students who study in these schools to compete successfully in international academic competitions and evince high rates of transition to university. In addition, learning appears to have broken out of an exam-driven mode leading to a profusion of project work completed by students. For example, in 2019, students enrolled in secondary New Generation Schools completed 490 group projects on topics of their own choosing. This was a significant breakthrough in the culture of learning, which is still very much exam-driven.

Table 6.1: Key Metrics for New Generation School Performance (2019-20)

Metric	NGS	National
Secondary Level:		
1. Bac II Examination Pass Rate: (2019)	91%[23]	68%
2. Students with A, B, or C Bac II Pass: (2019)	35%	8%
3. Transition to University:	88%	13.69%*
4. Students Receiving Medals/Awards:	612	n/a
5. Students studying ICT 3 hrs/week or more:	100%	0%
6. Dropout Rate:	4%	LSS: 16% USS: 17%
7. Secondary Schools Accredited:	83%	n/a
8. Secondary School Teachers with 4-Year Degrees or Higher:	86%	43%
9. Teachers Completing Career Path Plans:	98%	n/a
10. Student Projects Completed per year:	490 Projects (1 project per 6 students)	n/a
Primary Level:		
11. Oral Reading Fluency (Grade 3)	71 Words per Minute	45 WPM**
12. Familiar Word Reading (Grade 1)	15 Words per Minute	3 WPM

*Gross Enrolment (Tertiary); **Standard, not actual performance

<u>Sources</u>: MoEYS, 2020; EMIS, 2019; World Bank, 2018

Competition with Private Sector: NGS administrators have also been reporting that many of the students enrolling in their schools are returning from the private sector, which demonstrates the ability of public schools to effectively compete with private schools when conditions of governance improve. Indeed, one New Generation School in the capital reported that demand for enrollment was so high that it was only able to accept 18% of the students applying due to a shortage of seats.

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[23] It is important to note that all NGS students are enrolled in the Science Stream where the Bac II Exam pass rate is only about 50% compared to the social science stream where the pass rate is about 80%.

Knock-on Effects: The NGS initiative has been driving innovation in the secondary education sub-sector leading to partial replication in a number of larger bank-funded projects, thereby fulfilling high expectations among MoEYS leaders for knock-on effects. In addition, the high extent to which technology is being used in the NGS system has also provided a useful foundation for MoEYS planning to address school closures resulting from Covid19 including the production of hundreds of archival video lessons that are being presented online as well as other general resources for online education. Similarly, the NGS system is pioneering a system of school-based mentoring that links with a special training center established at the National Institute of Education (NIE) for this purpose. In this respect, MoEYS established the *New Generation Pedagogical Research Center (NGPRC)* at NIE to train experienced secondary school teachers (often recruited from NGS sites) to work as full-time, school-based mentors in all NGS sites. Candidates recruited to the center study intensively for one year and receive a Master's Degree in Mentoring before being posted at a New Generation School. These innovations will be a major step towards *Continuous Professional Development* goals at New Generation Schools and ensure the development of an emerging model of non-threatening professional support to all teachers. In addition, NGS programming is generating new exemplars in modern education for the public education system in a wide range of areas from modern school architecture, to 21st Century Libraries and digital learning and many others. These exemplars and the accompanying documentation are helping to drive modernization of the Kingdom's education system.

International Recognition & Good Press for Cambodian Education: Finally, the New Generation School Initiative is attracting international attention. In this regard, the program has been showing up in multiple international publications by Springer Press (of Singapore), Harvard University, the Adenauer Foundation, and the World Bank. The program was also recently presented at the *Comparative International Education Society Conference* in San Francisco in 2019. Other nations in the region are now showing interest in the model and replication has already started in Lao PDR and Myanmar, leading to an interest to send international students to attend the Master's Degree Program (which is taught in English) at the NGPRC at the National Institute of Education. Thus, the New Generation School initiative is not only benefiting Cambodia's education system but is also bringing international praise and recognition to the Kingdom.

ANNEX 1: Indicator Reporting Table for MoEYS/MoEF (Updated 2020)

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.	• Project Reports	• School managers, teachers, and local communities demonstrate commitment to supporting the principles of NGS implementation.	• **Achieved** • Sisovath HS (in operation) • Hun Sen Kampong Cham HS (in operation) • Prek Leap HS (in operation) • Prek Anchanh HS (in operation) • Peam Chikong HS (in operation) • Kok Pring Jr. HS (in operation)[24]
Indicator 1.2: Three different NGS Models are developed and successfully piloted by 2018	• Project Reports	• The prototype models developed by KAPE are feasible and relevant to the Cambodian context.	• **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.	• Accreditation Report Scores	• The Accreditation Subcommittee can administer accreditation protocol tools effectively and reliably.	• **In Progress (5 out of 6 currently accredited)** • Sisovath HS (Accredited in 2017, 2018, 2019, &2020) • Hun Sen Kampong Cham HS (Accredited in 2017, 2018, 2019, & 2020) • Demonstration School of Kampong Cham (Accredited in 2019 & 2020) (Primary Level) • Prek Leap HS (Accredited in 2020) • Prek Anchanh HS (Accredited in 2020) • Peam Chikong HS (Planned for 2022) • Kok Pring Jr. HS (Accredited in 2019 and 2020)[25]
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.	• Classroom observation results • Teacher conference records • Quarterly Reports	• Teachers are motivated to change their learning styles to accommodate the use of new pedagogies in their teaching	• **Achieved for 2017, 2018, 2019, and 2020** See table below

School (2020)	Secondary School Level		
	Total Teachers	Teachers Completing Career Path Plans	%
Preah Sisovath HS	74	73	97%
Hun Sen Kg Cham HS	29	29	100%
Prek Leap HS	56	53	95%

[24] Funded by Child Fund.

[25] Ibid

Target	Means of Verification	Risks & Assumptions	Achievement to Date			
			Prek Anchanh HS	56	51	91%
			Hun Sen Peam-Chikorng HS	35	32	91%
			Total	**250**	**238**	**95%**
Indicator 1.5: Bac II Exam Performance exceeds National Average at All Schools each year.	• Test Score Results	• The design of questions on the Bac II Examination captures the higher order thinking skills that teachers in NGS sites are focused on teaching.	**Achieved for 2019** • Hun Sen Kampong HS achieved an 84% Pass Rate (16% above National Average and Highest Scoring School in Kampong Cham Town) • Preah Sisovath HS achieved an 91% Pass Rate (22% above National Average) **Cancelled for 2020** • Bac II Examination cancelled in 2020 due to Covid19 Pandemic			
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.	• Site Visit Reports • Annual Reports	• 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.	• **Achieved (within a Margin of 10%)**			

Proposed & Completed Facilities in NGS Sites, FY2016 to FY2020

Investment Area	Number Proposed 2016-20	Number Established 2016-20	%
Secondary School Sector (5 schools)			
NGS Classrooms	94	85	90%
Science Labs	41	46	112%
ICT Labs*	13	14	108%
21st Century Libraries*	5	5	100%
Auditorium	5	4	80%
Office/Meeting/Faculty Rooms	13	15	115%
Canteen*	5	1	20%
Student Clinic*	5	4	80%
Youth Centers*	4	5	125%
Total Facilities	**185**	**179**	**98%**
Primary School Sector (3 schools)			
NGS Classrooms	45	52	116%
Science Labs	0	0	0%
ICT Labs	2	2	100%
21st Century Libraries	2	2	100%
Office/Meeting/Faculty Rooms	2	2	100%
Auditorium	1	0	0%
Canteen	--	--	--

Target	Means of Verification	Risks & Assumptions	Achievement to Date			

			Student Clinic	--	--	--
			Youth Centers	--	--	--
			Toilet Facilities	13	10	77%
			Total Facilities	**65**	**68**	**105%**
			Facilities at All Levels	**250**	**247**	**99%**

*Facilities sometimes shared with Primary Schools

Target	Means of Verification	Risks & Assumptions	Achievement to Date
Indicator 1.7: Documentation of New School Architecture Designs is completed by 2019 to facilitate replication by other agencies.	• Manual is available for review	• The physical design manual can capture the basic specifications for new school designs while allowing flexibility to adapt these to different locations.	• **Achieved/Completed:** Document approved and published by MoEYS
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.	• Test score results	• Tests are administered in a way that ensures valid and reliable assessment	• **Pending midline test administrations (Testing in 2020 was postponed due to the Covid19 Pandemic.**
Indicator 1.9: ICT labs at all schools meet standardized criteria for satisfactory operation or better each year.	• Survey results based on agreed governance principles	• Stakeholders are willing to change their attitudes and habits to enable improved governance	• **Achieved for 2020** (see table below)
Indicator 1.10: ICT in Education proficiency among teachers at each school improves from baseline scores.	• Survey results • Quarterly Reports	• Teachers have the prerequisite skills to understand basic concepts of ICT literacy • Teachers are motivated to change their learning styles to	• **Achieved for 2020** • All schools improved their scores from baseline • 67% of teachers describe the frequency of their use of ICT in instruction as medium to high

Indicator 1.9 table:

School	General Admin	Curriculum & Teaching	Student Learning	Lab Maintenance	Total
Preah Sisovath HS	90%	91%	92%	89%	91%
Hun Sen Kg Cham HS	76%	91%	83%	89%	85%
Prek Anchanh HS	71%	70%	67%	67%	69%
Prek Leap HS	86%	74%	67%	67%	73%
Hun Sen Peamchikrong HS	71%	70%	67%	67%	69%
Average	**79%**	**79%**	**75%**	**76%**	**77%**

Note: Minimum Performance = 65%

Target	Means of Verification	Risks & Assumptions	Achievement to Date
		accommodate the use of ICT in teaching	
Indicator 1.11: Dropout rates at all schools do not exceed 5% each year.	• Educational Statistics Reports	• Students and parents are motivated to stay enrolled to benefit from the high investment environment created by MoEYS.	• **Achieved in 2020**

Achievement to Date for Indicator 1.11:

School	Total Students/ Female	Total Dropouts	%
Preah Sisovath HS	1004/438	34	3.39%
Hun Sen Kg Cham HS	416/217	7	1.68%
Prek Leap HS	741/380	30	4.05%
Prek Anchanh HS	803/444	14	1.74%
Peam Chikong HS (Baseline)	540/296	34	6.30%
Total	**3873/1769**	**119**	**3.07%**

Target	Means of Verification	Risks & Assumptions	Achievement to Date
Indicator 1.12: At least 80% of all students graduating Grade 12 enroll in post-secondary school studies each year.	• School Tracking Reports	• A majority of NGS students are more interested in pursuing further studies than immediately entering the workforce. • A majority of NGS students have sufficient resources to pursue post-secondary school studies.	• **Achieved in 2020**

Achievement to Date for Indicator 1.12:

School	Total Students	Total Students Entering Post-Secondary Studies	%
Preah Sisovath HS	103	103	100%
Hun Sen Kg Cham HS	51	51	100%
Total	**154**	**154**	**100%**

Target	Means of Verification	Risks & Assumptions	Achievement to Date
Output 2: Completion of a successful NGS National Survey			
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.	• Completed Survey Report	• 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.	• **Achieved since 2016**
Output 3: Development of a National NGS Framework & Social Equity Fund with replication in at least 5 new sites			
Indicator 3.1: An implementation framework governing the operation of a Social Equity Fund designed to promote the proliferation of New	• Operational Guidelines Document • Quarterly Report	• Stakeholders can agree on a common framework for NGS replication	• **Achieved:** Draft framework has been incorporated into NGS Operational Guidelines and are pending approval.

Target	Means of Verification	Risks & Assumptions	Achievement to Date
Generation Schools is completed by 2018.		• MoEYS has available funds to re-source a Social Equity Fund	
Indicator 3.2: An accreditation process is in place including the establishment of an Accreditation Subcommittee and the official issue of NGS certifications.	• Accreditation Visit Reports with Recommendations • Certifications	• The Accreditation Subcommittee acts as an independent and neutral body capable of enforcing NGS Standards.	• **Achieved:** Accreditation Protocols developed and implemented in 2016 for the first time.
Indicator 3.3: A New Generation School Policy Document is developed and approved by MoEYS by 2016.	• Policy document review	• All stakeholders can agree on the content outlined in the Policy Document	• **Achieved:** Policy approved by Minister in 2016
Indicator 3.4: A New Generation School Operational Guidelines Policy Manual is developed and approved by MoEYS by 2019	• Policy document review	• All stakeholders can agree on the content outlined in the Policy Document	• **Achieved:** Manual completed in draft form and waiting for review by National Oversight Board.(2020)
Indicator 3.5: Development of a Teacher Development Framework is completed by 2017	• Policy document review	• All stakeholders can agree on the content outlined in the Policy Document	• **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.	• Standards of Performance as outlined in Statutes • Meeting Minutes	• Network meetings can be organized quarterly with high attendance of all actors	• **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.	• Oversight Board Performance Checklist	• The Boards are able to meet on a regular basis to discuss issues of relevance to the school	• **Achieved**
			• ***National Board***: Newly appointed in 2017
			• ***5 Provincial Boards appointed and in operation***
			   o Phnom Penh (established)
			   o Kampong Cham (established)
			   o Svay Rieng (established)
			   o Kandal (established)
			   o Kampong Speu (established)

Annex 2:
NEW GENERATION SCHOOL SYSTEM

Teacher Weekly Checklist Report for Online Education Activities
(For Validation of Incentive Payment)

Teacher Name: _____   Subject Taught: _____

School Name: _____   Grades Taught: 7 8 9 10 11 12 *(Please circle one)*

Month/Week: _____ / Week: 1   2   3   4 *(Please circle one)*

Please Indicate the Classes for which you are responsible: _____ *(e.g., 7A, 8A, etc.)*

No.	Questions	School Director Notes
1.	How many of your classes did you meet remotely this week? 1 Class 2 Classes 3 Classes 4 Classes	
2.	How many lesson plans should you have presented to students this week? 1 Lesson 2 Lessons 3 Lessons 4 Lessons	
3.	Where did you get the lesson presentation that you showed on line? Used the MoEYS Lesson Archive. Used a non-MoEYS Archive Made my own content/video Used a combination of my own content and content from an archive.	
4.	What applications did you use to deliver the content/Meet your students? *(Check all that apply if you used more than one app)* Youtube Channel. Google Classroom. Telegram. Messenger. Sala Platform. Other: _____	
5.	What applications did you use to create your content? *(Check all that apply if you used more than one app)* PowerPoint. Microsoft Word. Video App. Screen Capture App Other: _____	
6.	How did you meet your students? Met them in real time. Interacted with them but not in real time I uploaded content only but did not interact with my students.	
7.	To what degree was your assessment in Item 6 true of each of your classes? True for ALL of my classes. True of MOST of my classes. True of SOME of my classes only	

No.	Questions	School Director Notes
8.	Did you assign questions or exercises to your students to answer? Yes. No	

9.	To what degree was your assessment in Item 8 true of each of your classes?
	
	    True for ALL of my classes. True of MOST of my classes.
	
	    True of SOME of my classes only	

10.	Were you able to use a Learning Monitoring System to track student attendance? Yes. No	
11.	Please indicate the approximate degree of 'participation' of your students in the remote lesson this week: Class _____: _____% Class _____: _____% Class _____: _____% Class _____: _____% *e.g., Class 7B: 80%*	

12.	How did you estimate students' attendance?
	
	    Used LMS Feature
	    Reviewed the number of exercises received back from students.
	    Used my own best guess/estimate
	    Other: _____	

Submitted by: _____Teacher's Signature

   I have reviewed the teacher *Weekly Online Education Report* above and have determined that the teacher has **NOT** fulfilled the requirements for an incentive payment.

   I have reviewed the teacher *Weekly Online Education Report* above and have determined that the teacher has fulfilled the requirements for an incentive payment.

Reviewed by: _____ (Reviewer's Name)

                _____ (Reviewer's Position)

                _____ (Reviewer's Signature) Date:

Annex 3:
RECOMMENDED POLICY FRAMEWORK FOR MENTORING
(Draft)

1 DEFINITION

For the current policy framework, Mentors are defined as expert teachers who provide pedagogical support to other teachers in a one-to-one relationship. Mentors who graduate from the New Generation Pedagogical Research Center will hold a Master's Degree of Education in Mentoring. Mentors who graduate from the NGPRC are not coaches. In this respect, it should be noted that 'Mentoring is oriented around relationships.' Although the mentor and mentee might initially focus on certain learning goals or competencies, over time they develop a bond and rapport that often transcends specific workplace issues. On the other hand, 'Coaching is oriented around defined tasks.' Coaches are often called upon to help individuals become more proficient in certain areas or address important workplace skills they might be lacking. Some examples might include using a specific curricular document, employing a specialized set of materials, or following a scripted lesson plan. Thus, it is important that the policy governing Mentors should clearly distinguish between what a Mentor does and what a Coach does.

2 ELIGIBLE INSTITUTIONS WHERE MENTORS MAY BE POSTED

2.1 KIND OF INSTITUTIONS FOR MENTOR PLACEMENTS

Three kinds of institutions are eligible to host NGPRC mentors:
- Schools within the New Generation School System
- Ordinary Public Schools
- Teacher Training Institutions, such as Teacher Education Centers and the National Institute of Education.
- Provincial or District Offices of Education where there is need for Office-based Mentors.

The highest priority for NGPRC is to post mentors to New Generation Schools to ensure the sustainability of such schools' high teaching standards as well as a possible expansion of the NGS System that may occur in future years.

Public schools, training institutions, and provincial/districts offices of education may also request mentors, preferably one year in advance of their posting. By doing so, such institutions accept the mentoring policy, and they commit themselves to providing their mentors with good working conditions and an accommodative institutional structure. Requests for mentors should be are submitted to the NGPRC, and will be reviewed in accordance with the current priorities set by MoEYS.

2.2 Matching system

It is important that Mentors and the institutions where they will be posted are well-suited to one another. If Mentors are placed in institutions where they are not happy, they may request a transfer to another institution after a short time or may not be effective, or both. In order to reduce such risks, a placement fair will be organized each year to let NGPRC graduates and school directors meet each other, before any graduates express a preference for their ultimate place of posting. NGPRC will provide the participants with all the relevant information needed to make a well-informed decision about where they would like to be posted (e.g., academic achievement of the candidates, age, academic background, previous experience). The institutions that require NGPRC Mentors will similarly provide information on their objectives, facilities, organization and teaching philosophy in the form of leaflets or posters. A short orientation workshop might be organized for institutions receiving Mentors beforehand to explain the mentoring system, if the directors of these institutions request it. After meeting as many school directors as possible, NGPRC graduates will rank their preferences while the schools may rank the candidates as well, based on the information provided.

As long as the graduating classes of NGPRC degree candidates are small enough, the faculty will seek to find suitable placements for Mentors through discussion in order to accommodate personal preferences. If this method proves to be impractical, a dedicated matching algorithm will be designed to match mentors and schools.

2.3 Where should Mentors be based?

Ideally, Mentors will be based in specific schools, preferably secondary schools, in order to be as close as possible to their Mentees. Mentors may also be placed in other institutional settings where they provide support to larger groups of individuals such as a training institution. However, school-specific locations are more ideal for Mentor placements.

2.4 Zone of intervention

- Firstly, Mentors should be based in their assigned school.
- On request, and with the permission of the school director, Mentors may also be made responsible for other schools in the vicinity.
- At the request of NGPRC and with the approval of their immediate supervisor (e.g., a school director), Mentors may also be used for the delivery of specific workshops as determined by MoEYS. In such cases, Mentors will be properly remunerated for their services with respect to daily subsistence and user fees.

3 Tasks of the mentors

3.1 Mentoring Tasks

The tasks undertaken by Mentors may include any or all of the following:
- Classroom observations (followed by post-conferences)
- Consultations (to prepare lessons and other teaching activities)

- Co-teaching (this is meant to build up the skills of the hosting teacher, not to replace him/her in any way, i.e., Mentors are not intended to be substitute teachers)
- Classroom Demonstrations (Mentors can demonstrate new techniques to the hosting teacher, but they are not supposed to replace him)

3.2 TEACHING SERVICE

Mentors must have some credibility as teachers. That is, they must be able to show that they have actually taught students. Consequently, it is important that Mentors continue to engage in teaching at the schools/institutions where they may be posted. Nevertheless, teaching responsibilities assigned to Mentors should be limited to not more than one-third of their total working time. The remaining time should be focused on fulfilling their mentoring duties. School directors should not use Mentors to fill gaps in their timetables, which may distract Mentors from their main duties. In addition, Mentors should not be used as substitute teachers.

3.3 REMOTE OBSERVATIONS VIA OBSERVIC

Under certain circumstances, it may be necessary for Mentees to submit a video of their teaching to a Mentor remotely using the *Observic* Platform, which is a new mentoring software contextualized to the Cambodian education system. Such circumstances may include some of the following situations: (i) the teacher cannot find adequate support in the school about a particular subject-matter that is not the specialty of the available mentors; (ii) the available mentors are too busy; (iii) the teacher doesn't feel comfortable with the available mentors, etc.

When using the *Observic* platform, the Mentee can choose the Reviewer, if the latter is available.

Every Mentor in the NGS network will participate to the remote observation program as Reviewers. Other Mentors may also participate in the *Observic* Platform, especially alumni from the NGPRC. The complete list of Mentors doing remote observations will be accessible via the *Observic* platform.

Mentors should be conversant in using the *Observic* Platform and will be able to provide technical assistance through the *Observic* Platform.

Specific guidelines are available for *Observic* at the following link:. [create a link]

3.4 OTHER MENTOR TASKS

Other Mentor tasks may include, but are not limited to, the following:
- Conducting workshops and other training sessions, both in their assigned schools or outside.
- Writing articles, in Khmer, to answer questions raised by teachers during their interventions. Dedicated online platforms will be developed by the NGPRC for this purpose.
- Animating professional teams, through social media or physical presence. For this purpose, Mentors will use platforms created by the NGPRC or other platforms provided by the learning community where Mentors are based.

Specific tasks should be negotiated between the school directors, the Mentors and the institutions where Mentors are based. The NGPRC will provide support and advice to assist posted Mentors in cases where they are presented with difficult problems or issues.

4   ASSIGNING MENTEES TO MENTORS

4.1   DETERMINING THOSE TEACHERS WHO ARE ELIGIBLE TO RECEIVE MENTORING

Schools should designate teachers as Mentees using the following considerations:
- All new teachers in a school must be assigned to a Mentor.
- All teachers recently recruited into the school from other institutions, regardless of their previous experience must be assigned to a Mentor
- Teachers on staff with less than 5 years of experience must be assigned to a Mentor.
- Other teachers with more than 5 years of experience may volunteer to be a Mentee but are not obligated to do so.

4.2   PAIRING MENTORS AND MENTEES TOGETHER

To the degree possible, Mentees should be allowed to choose their Mentors.
It is recommended to match Mentors and Mentees according to their subject-matter. But this is not an absolute necessity.
TRUST IS THE KEY to building a productive Mentor-Mentee relationship. In this respect, Trust is more important than technical expertise.

5   TEACHER-MENTOR RATIO

The NGPRC recommends a ratio of between 10 and 15 teachers per Mentor. This Teacher-Mentor Ratio will be re-evaluated on a regular basis to take the actual workload and local circumstances into account. The NGPRC will conduct yearly research to determine the optimal ratio.
The assignment of Mentors should be based on a careful assessment of the needs of the school including the total number of teachers, their years of experience, the quality of instruction, and other relevant factors. The number of Mentors assigned to a school should be based on commensurate needs.
Ideally, at least two Mentors should be assigned to a school so that they can provide support to one another.

6   MENTOR ASSIGNMENTS BY SUBJECT MATTER

To the degree possible, Mentors should be organized in schools to cover four subject groupings as follows:
- Natural Sciences (e.g., Physics, Chemistry, Biology, Earth Science)
- Mathematics
- Languages (e.g., Khmer, English)

- Social Sciences (History, Geography, Morals)

When a subject is not directly covered by the assigned mentors, teachers can use the *Observic* software to find the support they need.

7   EVALUATING THE WORKLOAD OF MENTORS

7.1   FREQUENCY OF CLASSROOM OBSERVATIONS

New teachers will be observed/conferenced at a rate of around once a week.
More experienced teachers should be observed at a rate of about once a month, as part of their continuous professional development. Sharing one's experience should become part of a new culture in the schools where mentors work.

7.2   DURATION OF AN OBSERVATION

A typical classroom observation should include preparation time, a pre-conference with the teacher to determine the areas of need where the teacher requires assistance followed by the observation itself, and a post-conference for feedback. The observation process should take between 1.5 to 3 hours each time. As a general rule, it is recommended that a Mentor should limit observations to various teachers to not more than 3 per day.

7.3   REQUIRED TIME FOR ADDITIONAL TASKS

A reasonable amount of time should be reserved in the Mentors' timetable for additional tasks (e.g., workshops, reporting, exposure visits, etc.) and for emergencies.

8   POSITION OF THE MENTOR IN THE SCHOOL HIERARCHY

8.1   SENIORITY

The Mentor will occupy a place of some seniority in the school hierarchy that will be equivalent to Vice School Director

8.2   NON-THREATENING POSITION

The work of a Mentor relies on trust. As a consequence, Mentors should not be seen as judges or supervisors by the teachers they are meant to support. Nevertheless, Mentors still need to be conferred with the authority and autonomy necessary to do their job effectively. A Mentor should be able to request reasonable tasks of a teacher, as a condition for the support he/she is providing. Such tasks may include simple research, lesson planning, completion of career planning documents, and other normal preparation of lessons. If a teacher refuses to perform these tasks, the technical support to the teacher may be cancelled.

8.3 RELATIONSHIP BETWEEN THE TECHNICAL GROUP LEADER AND THE MENTOR

School-based Mentors are not intended to replace TGLs, rather their role is to supplement the regular duties of the TGL. The TGL may give assistance to Mentors who are working with teachers who teach subjects in which the Mentor has not knowledge of the subject matter. The Mentor may also invite the TGL to help with team teaching and other professional development activities for new teachers.

8.4 RELATIONSHIP BETWEEN THE SCHOOL DIRECTOR AND THE MENTOR

For Teacher Training Institutions, such as NIE and TEC, please see the dedicated section.

8.4.1 Requesting Specific Tasks

Mentors act as pedagogical advisers at school level. The school director may request Mentors to perform various tasks related to school management, as long as those tasks do not interfere with their main duties. Such tasks may include the following:

- Administrative tasks (short and temporary tasks)
- Participation in discussions about school development planning or special school events
- Training workshops for teachers
- Other educational tasks.

8.4.2 Mentoring a Teacher who is Struggling with the Execution of His/Her Job Duties (e.g. with classroom management or academic content)

Occasionally, a school director can request a mentor to visit a teacher who is struggling with the execution of his or her duties. The initial visit should take the form of an individualized conference with the teacher with the possibility of follow-up observations or team teaching. This should be done with as much tact as possible.

No official report should be done after this mandatory conference, though the Mentor may give an informal assessment and recommendations to the School Director. **If the school principal must visit the teacher's class to make a decision about his/her career, the director should do so him/herself.** As noted above, it should be remembered that Mentoring is based on trust, which is why it is important that the Mentor not be seen by teachers as a 'supervisor' or an 'inspector.' The school director will not interfere in the relationship between the Mentor and the Mentee. However, if a teacher refuses to be mentored or refuses to take the advice provided into consideration, disciplinary action may be taken by the school director.

8.4.3 Reporting

The observation reports produced by Mentors are strictly confidential. They are written for the Mentee him/herself. Neither the school director nor other teachers should have access to these reports without the agreement of the teacher in question. When the Mentor assesses the Mentee's work, such assessments should be used for formative purposes only and not for considerations of promotion or demotion. The Mentor can advise the Mentee to request a more complete evaluation, if he/she thinks that it might help the teacher's professional development. This evaluation should be conducted by someone else. Once again, Mentors should NOT be seen as an Inspector.

Of course, for practical reasons and for the transparency of the process, Mentors should provide reports about their schedules with teachers and the degree to which teachers

comply with such schedules. However, the content of the observations and conferences should remain confidential to preserve the trust between the Mentors and their protégés.

8.4.4 Observation of Immoral and/or Illegal Activities

If a Mentor observes immoral behavior, he/she has to make a difficult decision that may supersede issues of trust between the Mentee and the Mentor.

If the behavior poses an immediate threat to the safety or the moral well-being of one or. more students (e,g., drunkenness in the classroom, corporal punishment, or sexual harassment), the Mentor must report it at once.

Serious non-urgent professional misbehaviors, such as taking illegal fees or coming to school late, must also be reported after a reasonable warning (a few days or weeks), if there is no improvement. The probationary time for such warnings to be heeded may be reduced to nothing, depending of the policy of the school. For instance, the ban on illegal fees is a very important rule in the New Generation School program, which teachers are well aware of from the day that they sign their contract with the school. Thus, there may be some variation in the response of the Mentor to various situations depending on the school context and relevant policies.

Genuine mistakes in pedagogical practice should not be considered to be bad behavior, as per the other examples provided above. Rather, such mistakes should be seen as learning opportunities.

In any case, it is the responsibility of the school director (not the Mentor) to enforce any disciplinary actions with regards to a teacher's misbehavior.

The principles explained in this section should be explained orally to the Mentee on the first day of his/her entry into a mentoring program.

8.4.5 Duties of the School Director with regards to the Mentor and Mentees

The role of the school director should be to actively facilitate the work of the Mentor. This facilitation may take various forms such as organizing timetables for observations and conferences, providing an appropriate meeting space for private conferences, providing equipment for classroom observations (e.g., tripods, video cameras, etc.), providing advice and feedback about questions asked by the Mentor, and other assistance.

9 FINANCIAL INCENTIVES

Mentors should receive special remuneration from the school, in order to:
- Recognize their expertise and special training
- Retain Mentors at the School
- Ensure the credibility of the career development program
- Confirm their status as having a superordinate role vis a vis other teachers

Within the NGS System, such special remuneration is fixed at 300,000 CR per month. In other contexts and projects, this remuneration may be negotiated depending on the available resources.

10 SCHOLARSHIP CONDITIONS AND REFUND POLICY

A Mentor graduating from the New Generation Pedagogical Research Center will be expected to work as a government staff for a minimum of 6 years including at least 3 years as a Mentor, in compensation for the scholarship support provided by MoEYS for free study. In case a mentor quits the public system, such individuals may be required to reimburse the scholarship fee to the Center. The amount of this refund is variable but may be ascertained from the following link: [link].

A contract outlining the above conditions of scholarship support will be signed by every trainee who enrolled at the NGPRC with scholarship support.

11 MENTORS ASSIGNED TO TEACHER TRAINING INSTITUTIONS (NIE, TEC) AND OTHER OFFICES

11.1 DUTIES OF THE DIRECTOR

The directors of teacher training institutions and other government offices provide the mentors with all the information needed to accomplish their mission. This includes:

- Job description of all instructors and other staff
- Pedagogical and administrative policy of the institution or office
- Relevant Regulations regarding teacher oversight.

The Director should also facilitate the relationship between the Mentor and the rest of the staff, by:

- Organizing orientation workshops for relevant staff about the role and responsibilities of the Mentor. NGPRC will provide relevant materials for such presentations.
- Organizing a tour around the institution/office and introducing the Mentor to all personnel.
- Providing facilities necessary to the mentor's mission (e.g., desk, computer, meeting room, etc.)

11.2 ROLE OF MENTORS IN TEACHER TRAINING INSTITUTIONS AND OTHER OFFICES

11.2.1 Activities of Mentors Working at Training Institutions

Mentors will be assigned to the Pedagogy Department of the institutions where they are posted, but will receive authority to conduct classroom visits across all other departments. Mentors posted to training institutions will participate in planning the implementation of Practicums for teacher candidates enrolled at their respective institutions to ensure that there is adequate support feedback during the Practicum experience.

Mentors posted to training institutions may also provide specialized courses to both Instructors and Teacher Candidates about Continuous Professional Development and how teachers can ensure that their classroom practice follows a growth mindset.

Mentors will make links between the departments at the institutions/offices where they are posted and contribute to creating a professional learning community using social media, shared video archives, and other PLC mechanisms.

Mentors may conduct anonymous surveys among students and lecturers, in order to evaluate the needs of all stakeholders.

Mentors will advise the Director of the TEC about the organization of the practicum.

11.2.2   Activities of Mentors Posted at Provincial or District Offices of Education

Mentors posted at Provincial or District Level Offices will design programs to promote teacher development. Such programs may be targeted at certain groups of schools or across all schools to meet specific needs (e.g., recently posted teachers fresh out of a training center). Teacher Development Programs may have the following elements:

- Professional support for new teachers graduating from local training institutions.
- Outreach to School Directors who wish to upgrade the quality of teaching at their school.
- Organizing specialized courses or workshops on specific methodologies that promote student learning
- Organizing exposure visits for teachers in specific schools
- Organizing on-going school-based support systems in local schools
- Other

11.3 POSITION AND SALARY IN TEACHER TRAINING INSTITUTIONS

Mentors receive a salary compatible with their hierarchical position in the assigned institution. The position of a Mentor is similar to a Senior Instructor or Office Head (e.g., Head of the Academic Office) and will be remunerated at a similar level of payment.

12 ASSESSING THE MENTORING PROGRAM

NGPRC will conduct longitudinal research about the effectiveness of Mentors. This research will provide a scientific basis to revise the current policy framework as well as all relevant curriculum documents.