



HIGHLIGHTS OF THE ANNUAL REPORT F . Y . 2019 / 2020



THE
NEW
NORMAL.



**HIGHLIGHTS
OF THE
ANNUAL REPORT
F. Y. 2019 / 2020**

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Highlights of the Annual Report for F.Y. 2019 / 2020

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Contents

Governing Board Members	iv
Vision	viii
Mission	viii
Strategic Goals	viii
Highlights of the Annual Report for F.Y. 2019 / 2020	1
Introduction	10
Key Result Areas (KRAs)	
KRA 1 : Regional Leadership	11
KRA 2 : Regional Visibility	61
KRA 3 : Solid Resource Base	85
Acknowledgements	107
Appendix 1	108

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SEAMEO RECSAM

Vision

Leading centre for quality Science and
Mathematics education

Mission

To promote and enhance Science and Mathematics
education in the SEAMEO Member Countries

Strategic Goals

Conduct research and development activities to
inform pedagogy and policy;

Design and implement high quality professional
development programmes;

Ensure strong collaboration and active networking with experts,
institutions and the community;

Serve as an effective clearinghouse for information;

Strengthen quality assurance in the management of resources
and services rendered.

HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019 / 2020

SEAMEO RECSAM takes pride in reporting the accomplishments and achievements for F.Y. 2019 / 2020 on the attainment of its strategic goals, and addressing challenging issues of regional importance as reflected in its 10th and 11th Five-Year Development Plans.

The Centre continues to conduct its high quality training courses and relevant research & development (R&D) activities with emphasis on STEM education, problem-based learning, inquiry-based learning, 21st century skills, higher order thinking skills, global citizenship and sustainability to improve the quality of science and mathematics teaching and learning in the SEAMEO region.

Some notable regional and national projects include: (i) SEAMEO STEM Planning and Design Learning (PaDL) Model: Finalisation and Trialing, (ii) Survey on Attitudes and Beliefs towards Science and Science Education of Year 9 and 10 Southeast Asian Students, (iii) Development of Teachers Guidebook for the Common Core Regional Learning Standards (CCRLS) in Mathematics and Science under the **(A) SEAMEO Basic Education Standards (SEA-BES)** project initiative, and **(B) SEAMEO ‘Learning Science and Mathematics Together’ in a Borderless World**. Besides that, the Centre is also involved in various research projects and activities at national level, namely; **(a) Module Development of Learning Socio-Scientific Issues as a Global Citizen**, **(b) Mobile Application in Mathematics Education: A Study among Malaysian Secondary School Mathematics Teachers** and **(c) Science Teachers’ Technological Pedagogical and Content Knowledge on Augmented Reality**.

RECSAM also played major role in providing professional development for teachers / educators across the SEAMEO region. Over 1,418 SEAMEO educators have benefited from all of these activities and programmes. For this fiscal year in review, RECSAM successfully conducted two (2) regular courses for the SEAMEO Member Countries. The Centre’s regular courses had a participation of 37 (thirty-seven) educators and all ten (10) SEAMEO member countries were represented.

To compensate for the limited number of participants who are offered places in the regular courses, customised courses, training workshops and seminar-workshops were offered to the SEAMEO member countries.

For this fiscal year, the Centre successfully conducted two (2) in-country training courses for 116 teachers from Cambodia and the Philippines. Five (5) short customised courses were successfully offered during this fiscal year and 323 students and educators have benefited from these courses. There were 16 (sixteen) training workshops conducted by RECSAM in partnership with international and regional institutions and consultants this fiscal year and gained 469 participations.

The “8th International Conference on Science & Mathematics Education (CoSMEd 2019)” was held alongside with the “TIMSS International Symposium 2019” from 11 to 15 November 2019. The themes for the two events were “*Aligning STEM Education with Education 4.0 and Sustainable Development Goals*” and “*TIMSS@20: Hindsights, Insights & Foresights*”, respectively. The events attracted 224 delegates from 14 countries across the globe (i.e.; Austria, Australia, Bangladesh, Brunei Darussalam, Hong Kong, India, Japan, Kazakhstan, Kyrgyz Republic, Malaysia, Philippines, Singapore, South Africa and Syria).

Despite the emergence of COVID-19 pandemic and its implications, RECSAM continues to actively progress by adapting the new normal approach. During this critical time when the nation and other parts of the world are in lock down, RECSAM has also launched the RECSAM's Online Learning platform on our website and social media channels for educators and stakeholders to access to quality and effectiveness of non-traditional modes of teaching and learning practices such as blended learning and free access to other educational resources. More than 1000 teachers and educators mostly from the SEAMEO region has benefitted from the online sessions. Educational resources and video recordings were placed in the website for easy access and free for use in schools, universities, teacher training colleges and informal education settings. RECSAM's Online Learning platform is one of the multi-pronged efforts of RECSAM in helping the member countries cope with the new education normal as many countries grapple with COVID-19 challenges.

In addition, administrative and academic publications were widely produced and distributed online and offline such as the RECSAM's 11th Five-Year Development Plan, Journal of Science and Mathematics Education in Southeast Asia (JSMEESEA) and Learning Science and Mathematics (LSM) Online Journal, and Enhancing Teacher's Professional Development Through Lesson Study: The Case of Penang Science Teachers were successfully published and distributed.

The Centre also published research reports in the SHAPE-SEA Strengthening Human Rights and Peace Research and Education in ASEAN / Southeast Asia online publication. Academic papers were also published in a number of journals and were presented by the academic staff of the Centre in international conferences.

Staffing strength stood at 76 as of 30 June 2020. There were ten (10) staff that left the Centre during this fiscal year. In its bid to streamline work procedures and enhance the specialisation as well as replace the vacated posts, RECSAM employed three (3) new Administrative Assistants based at the International House. The new Deputy Director for Research & Development Division also reported for duty during this fiscal year.

Several infrastructure developments were carried out which included the completion of renovation works, improvement of facilities of the Centre, upgrading of equipment needed in the conduct of training, seminars and conferences.

The total revenue for fiscal year 2019 / 2020 has decreased by 39.7% from RM 1, 858,488.35 in the past fiscal year to RM 1, 119,297.11. The decreased was mainly due to the uncertainty of the COVID-19 outbreak and the absence of various training programmes such as Regular Courses (Batch II) and Search of SEAMEO Young Scientists⁺ (SSYS⁺) Congress due to this pandemic. The decline was a result of the impact caused by the pandemic and the implementation of Movement Control Order (MCO) in the country as operations were ceased and rental of in-house facilities and guest rooms at the International House were also affected.

The impact of COVID-19 in Malaysia and around the world has generated a high degree of volatility and uncertainty. Hence, at RECSAM, we believe it is a sound and timely call to re-negotiating contracts, and reducing all non-essential expenditures to ensure the Centre is financially healthy.

We are immensely grateful to the Ministry of Education of Malaysia, our Governing Board members, SEAMEO Secretariat and our stakeholders and linkages partners, without whom we could not have achieved as much.

The Centre will relentlessly continue to pursue its mandated programmes and activities to further enhance its proclaimed status as a centre of excellence for science and mathematics education in the Southeast Asian region and beyond.



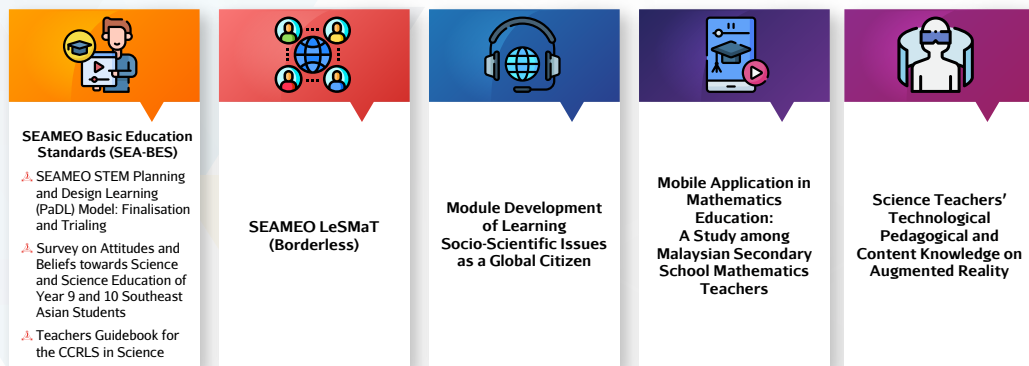
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HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

1

KRA1: Regional Leadership

1) Research and Development (R&D)

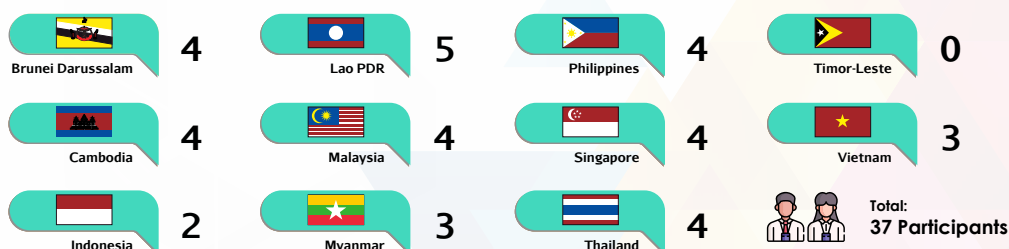


2) Capacity Building



Number of Participants by SEAMEO Member Countries

Regular Courses (Batch 1)





SEAMEO RECSAM

HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

Regular Courses for Three Fiscal Years



F.Y. 2017 / 2018 – 4
F.Y. 2018 / 2019 – 4
F.Y. 2019 / 2020 – 2

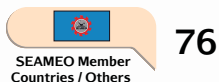


F.Y. 2017 / 2018 – 64
F.Y. 2018 / 2019 – 59
F.Y. 2019 / 2020 – 37

In-Country Training Courses



Workshops



Customised Courses / Short Courses



Colloquium



Total Participation Between International and Malaysia Participants by Courses Conducted for Fiscal Year 2019 / 2020

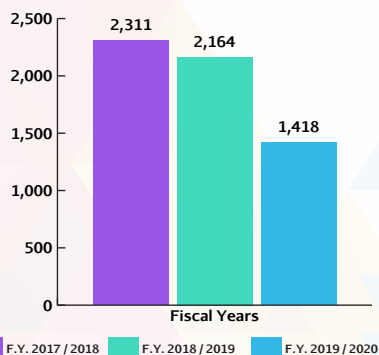
1,418
Participants Trained

International: 624
Malaysian: 794

Regular Courses	In-Country Training Courses
International 33 Malaysian 4	International 116 Malaysian 0

Customised Courses / Short Courses	Workshops / Camps / Programmes	Conferences / Symposiums	Colloquium
International 323 Malaysian 0	International 76 Malaysian 393	International 76 Malaysian 148	Malaysian 249

Total Participation for Three Fiscal Years



Focus Area



- Pedagogies in Teaching Science and Mathematics
- STEM (Science, Technology, Engineering and Mathematics)
- TEL (Technology Enhanced Learning)
- HOTS (Higher Order Thinking Skills)
- Pedagogy and Assessment
- Learning Standards
- Curriculum Development
- Academic Writing and Publication
- Blended learning including scientific / mathematical thinking, problem-solving and computational thinking



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HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

3) Recognition and Benchmarking

8

Engagement in
Consultancy Services



Regional / International
3



Malaysia
5

30

Centre's Involvement in the Development and
Implementation of Policy / Strategy / Programme /
Activities



Regional / International
7



Malaysia
23

II

KRA2: Regional Visibility

1) Strengthening Linkages with Inter-Centre, National, Regional, and International Institutions



Kanchanapisek Witthayalai
Nakhonpathom (Pratumnang
Suankulab Matthayom),
Thailand



Korea National
University of Education



Thepsatri Rajabhat
University, Thailand



Iloilo Science and Technology
University (ISATU), Philippines



Guimaras State College,
Philippines



Mindanao State University-Iligan
Institute of Technology,
Philippines



Society for Research
Development (SRD), India



Southeast Asian Institute of
Educational Training, Inc.,
(SEAIETI)



Centre / Network's
Partners

69

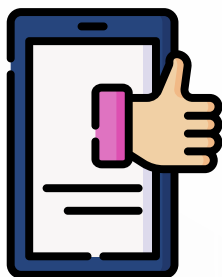


Regional / International
44



Malaysia
25

2) Increase Means for Stakeholders to Access SEAMEO Programmes



@seameorecsamofficial



@seameorecsam



SEAMEO RECSAM



www.recsam.edu.my



National Day Parade – 31 August 2019



SEAMEO RECSAM

HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

Publications Produced by the Centre

Journal of Science and Mathematics Education in Southeast Asia Volume 42 (December 2019)



Enhancing Teacher's Professional Development Through Lesson Study: The Case of Penang Science Teachers



SEAMEO RECSAM 11th Five-Year Development Plan (For Fiscal Years 2020 / 2021 to 2024 / 2025)



SEAMEO RECSAM Annual Report F.Y. 2018 / 2019



SEAMEO RECSAM 50th Governing Board Meeting Proceedings



Programme Book for 8th International Conference on Science and Mathematics Education (CoSMEd 2019) and TIMSS International Symposium 2019



Periodical newsletters
Volume 50, Number 2 & 3
Volume 51, Number 1



Professional Development

27

Professional



Management and Support

5



Regional / International / Webinar
16



Malaysia
11



Strategic Planning Workshop
21 & 22 November 2019



Performance Appraisal and
Standard Operating Procedure Workshop
18 & 19 June 2020



Briefing on Amendments to the Laws of the
Industrial Relations Act 1967
15 September 2019



Training Course on Using Electronic Trade System
UNION Information System (e-Tuis)
Department of Trade Union
18 September 2019



Trade UNION Management Course
24 February 2020



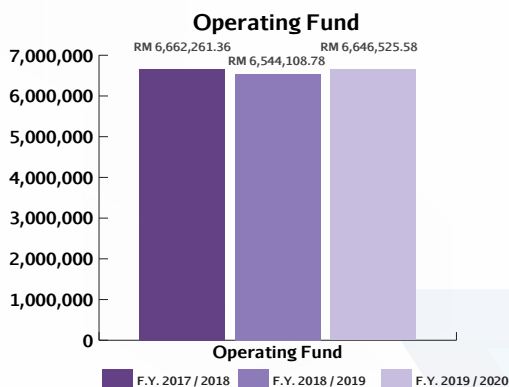
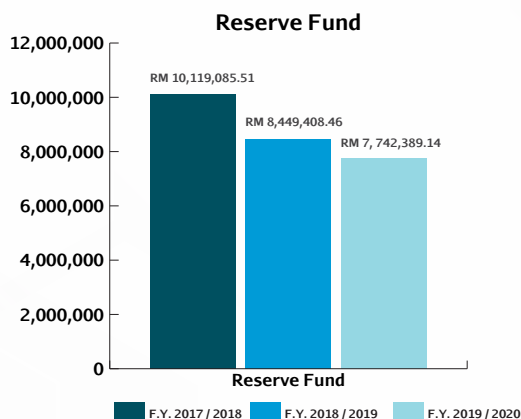
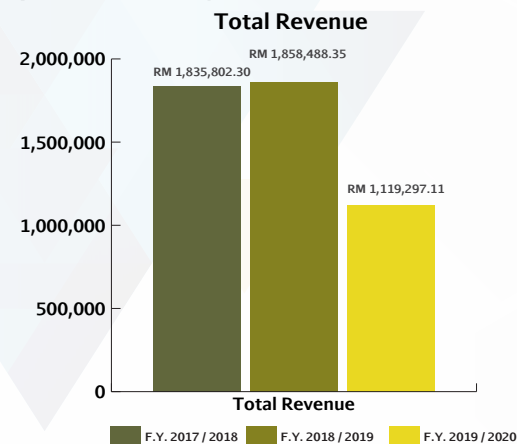
SEAMEO RECSAM

HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

III

KRA3: Solid Resource Base

1) Financial Viability



2) Management Efficiency

Management Retreat 2019

4 to 6 December 2019

50th Governing Board Meeting (GBM) 2019

24 to 26 September 2019

Centre Directors' Meeting (CDM) 2019

6 to 8 August 2019

SEAMEO High Officials Meeting (HOM)

26 to 28 November 2019

Regional Workshop of the 11th Five-Year Development Plan

31 July to 2 August 2019

SEAMEO RECSAM Mid-Year Review Workshop

10 June 2020





SEAMEO RECSAM

HIGHLIGHTS OF THE ANNUAL REPORT FOR F.Y. 2019/2020

3) Human Resource Management

 **10**
**Departure
of staff**

	Centre Director	1
	Deputy Director	1
	Specialist	3
	Consultant	1
	Manager	1
	Technical Assistant	1
	Administrative Assistant	2



 **4**
**Newly
Employed**

	Deputy Director (Research & Development)	1
	Administrative Assistant (International House)	3

**Total of
Staff Strength
(ending 30 June 2020)**  **76**

NON - MALAYSIAN
 **4**

MALAYSIAN
 **72**

Staff Strength for Fiscal Year 2019 / 2020 (ending 30 June 2020)



1.0 INTRODUCTION

The highlights of the annual report for F.Y. 2019 / 2020 will be presented according to three Key Result Areas (KRAs), namely, (i) Regional Leadership, (ii) Regional Visibility and (iii) Solid Resource Base. The sub-areas under each KRA are as follows:

- I. KRA 1: Regional Leadership
 - 1) Research and Development (R&D)
 - 2) Capacity Building
 - 3) Recognition and Benchmarking
- II. KRA 2: Regional Visibility
 - 1) Strengthening Linkages with Inter-Centre, National, Regional, and International Institutions
 - 2) Increase Means for Stakeholders to Access SEAMEO Programmes
- III. KRA 3: Solid Resource Base
 - 1) Financial Viability
 - 2) Management Efficiency
 - 3) Human Resource Management
 - 4) Facilities

2.0 KEY RESULT AREAS (KRAs)

2.1 KRA 1: REGIONAL LEADERSHIP

a) Research and Development (R&D)

During F.Y. 2019 / 2020, research and development (R&D) efforts focused on the main strategic issues of regional importance as planned in the 10th and 11th Five-Year Development Plan of the Centre. National and regional projects aimed to improve the quality of science and mathematics education in the SEAMEO Member Countries include: (i) SEAMEO STEM Planning and Design Learning (PaDL) Model: Finalisation and Trialing (ii) Survey on Attitudes and Beliefs towards Science and Science Education of Year 9 and 10 Southeast Asian Students (iii) Teachers Guidebook for the CCRLS in Science under the **(A) SEAMEO Basic Education Standards (SEA-BES)** project initiative, and **(B) SEAMEO 'Learning Science and Mathematics Together' in a Borderless World**. Besides that, the Centre is also involved in various research projects and activities at national level, namely; **(a) Module Development of Learning Socio-Scientific Issues as a Global Citizen**, **(b) Mobile Application in Mathematics Education: A Study among Malaysian Secondary School Mathematics Teachers** and **(c) Science Teachers' Technological Pedagogical and Content Knowledge on Augmented Reality**.

(1) SEAMEO Education Standards and Student Networking

This is one of the 12 initiatives by SEAMEO Secretariat under the Golden SEAMEO (2011 – 2020) led by SEAMEO RECSAM. This initiative consists of two separate but complementary projects, namely; (a) SEAMEO Basic Education Standards (SEA-BES) and (b) SEAMEO ‘Learning Science and Mathematics Together’ (LeSMaT) in the Borderless World.

(a) SEAMEO Basic Education Standards (SEA-BES)

(i) SEAMEO STEM Planning and Design Learning (PaDL) Model: Finalisation and Trialing

This project is under the SEA-BES Phase 2 on ‘Teaching to Transform: 21st Century Skills and Design Thinking in STEM Contexts’. This is a capacity-building regional workshop and research project where subject experts, teachers and student teachers explored the nature of STEM curriculum design. This project aims to promote STEM Education specifically to enhance the capabilities related to STEM curriculum design development of Southeast Asian teachers and the utilisation of the Common Core Regional Learning Standards in Mathematics and Science. This project is aligned under Priority Area #5 – Revitalising Teacher Education and #7 “Adopting a 21st Century Curriculum” of the SEAMEO Education Agenda (2015 – 2035). This project is undertaken in collaboration with the Faculty of Education, Monash University, Australia, as project consultants, in November 2018.

This project aims to promote STEM education specifically to enhance the capabilities related to STEM curriculum design development

and the utilisation of the Common Core Regional Learning Standards in Mathematics and Science. The output of this project is the SEAMEO STEM Planning and Design Learning (PaDL) Model publication. The draft STEM PaDL has been uploaded in RECSAM website for easy access of the participants to give feedback at: <http://www.recsam.edu.my/index.php/our-resources/project/stem-pa-dl-project>.

The feedback will be analysed to serve as inputs in the finalisation during the regional workshop with funding from the SEAMEO Secretariat Inter-Centre Collaboration (ICC) project. There will be concurrent regional workshop to finalise the Teachers Guidebook for CCRLS in Science. The project output is the publication of final draft of the SEAMEO STEM Planning and Design Learning (PaDL) Model: Finalisation and Trialing.

(ii) Survey on Attitudes and Beliefs towards Science and Science Education of Year 9 and 10 Southeast Asian Students

After the publication of the SEA-BES CCLRS in Science, queries were received from science teachers and teacher-educators on how the Learning Standards and the topic on 'World of STEM' be made more useful and relevant to teachers, least on how best to implement into effective science teaching and learning in the classrooms. Among the queries included: "Were the topics and sub-topics included in the CCRLS of interest to the secondary school students?", "Were the topics within the cognitive ability and experience of the students – appropriate to the key stages or in proper progression from simple to complex?"

“Did the learning outcomes consider gender inclusivity?” “How do the students value science as a school subject?”, “What do they think about their understanding of science or their self-efficacy?”, “How do they see themselves learning science?” are just a few that require a closer look. In a way these questions are related to students’ attitudes towards science and science education in general.

The STEM Futures Centre, Faculty of Education, University of Technology Sydney, Australia had gathered data on beliefs, views and attitudes towards science and science education from year 9 and 10 Australian students. The Centre decided to find out the attitudes and beliefs towards science and science education of the Southeast Asian secondary students. This study was conducted from July to October 2018 in the seven SEAMEO Member Countries while the analyses and writing of the report were done in 2019.

This is an online research survey among Year 9 and 10 students from SEAMEO Member. The research survey would investigate the attitude and beliefs towards science and science education based on the following components: (i) What students think about science; (ii) interest in science outside school; (iii) teaching and learning science; (iv) self-efficacy in science (4 items); (v) how scientists work (8 items); (vi) interest in learning about science topics (14 items); and (vii) future participation in science (3 items). The study will also look into gender and year level differences among the students.

The data have been collected and analysed from the Year 9 and 10 students of the seven

participating SEAMEO Member Countries, namely: Brunei Darussalam, Indonesia, Malaysia, Myanmar, Philippines, Thailand, and Vietnam in 2019. The online survey used Survey Monkey under the management by the STEM Futures Centre, Faculty of Education, University of Technology Sydney, Australia. The complete draft of the research is now being edited and finalised for publication.

(iii) Teachers Guidebook for the CCRLS in Science

The SEA-BES Phase 1 developed and produced the *Common Core Regional Learning Standards (CCRLS) in Science and Mathematics* in 2017 and was disseminated to all the 11 SEAMEO Member Countries, SEAMEO sister centres and partners. It serves as a tool for analysing curriculum for 21st century skills, collaboration of ASEAN on learning standards and assessment to respond changing global context, promotion of best practices for curriculum reform, systematic discussion for regional integration and a platform for curriculum and professional development and assessment. The Centre had forged collaboration with CRICED University of Tsukuba Japan to develop Guidebook for CCRLS in Mathematics. A Mathematics Specialist was earlier invited for a sabbatical leave in 2018 at CRICED University of Tsukuba, Japan to develop the Guidebook for Mathematics. The following year in 2019, Prof. Masami Isoda, Director of CRICED, University of Tsukuba extended an invitation to the proponent for a sabbatical leave, similar to the Mathematics Specialist on the previous year, to work on the Guidebook for CCRLS in Science as counter-part / supplementary to

the Guidebook for CCRLS in Mathematics. The Centre Director seeing the importance of the project approved and endorsed the sabbatical leave of the proponent for one month with the condition that he gets his one month salary from CRICED, University of Tsukuba, Japan. This project lends support to Priority Area #5 and Priority Area #7.

This project aims to develop the Guidebook to assist pre-service and in-service teachers get a general feel of the CCRLS in Mathematics and Science published in 2017 and aid their understanding that the content standards build developmentally over the course of a student's education from Grades 1 to 9 expressed in three key stages where the standards increase in complexity (learning progression). Likewise, publication would include in-depth treatment of some difficult ideas/concept presented in interesting model lessons such as Inquiry and STEM.

Presently, mapping of the content standards in terms of topics and sub-topics is undertaken in the CCRLS in Science. Likewise there is undergoing curriculum review of the science standards of high performing countries like Australia and USA (New Generation Science Standards) as benchmark. A Survey on Proposed Content of the Guidebook for CCRLS in Science is undertaken to gather inputs from the science specialists/experts of the Ministries of Education of SEAMEO and science experts from Malaysian universities. The feedback will be consolidated and will be used to make decisions on the contents of the guidebook. A workshop will be conducted to draft the contents of the Guidebook with the local Malaysian expert science teachers.

A regional workshop to finalise the Teachers Guidebook will be done concurrently with the regional workshop on finalisation of the SEAMEO STEM PaDL model project.

(b) SEAMEO LeSMaT (Borderless)

SEAMEO LeSMaT (Borderless) was renamed since 'Critical Success Factor' (CSF) workshop in November 2015 from Borderless School project, an area identified under the vision of Golden SEAMEO in the next decade being endorsed by High Official Meeting (HOM) in 2012. This initiative is in line with the SEAMEO Education Agenda or priority area No.7 "Adopting a 21st Century Curriculum" stating to pursue a radical reform through systematic analysis of knowledge, skills, and values needed to effectively react to changing global contexts and in building ASEAN community within 20 years (2015 – 2035). The 37th High Officials (HOM) Meeting held on 25 – 27 November 2014 (Bangkok) and the 48th SEAMEO Council Conference held on 6 – 9 May 2015 (Chonburi) took note of the development of the SEAMEO Borderless School. Likewise, the LeSMaT (Borderless) Work Plan and Budget were presented and endorsed during the SEAMEO Centre Directors' Meeting (CDM) held on 27 – 29 July 2016 in Bangkok.

The main aim of the LeSMaT (Borderless) project is to prepare students to become global players with moral values who are innovative, enterprising, equipped with 21st century skills and lifelong learners in cross-cultural learning environment. The learners from diverse background are expected to be actively involved in sharing resources through blended-mode learning environment rich with easy access information mainly from Open Education Resources

(OERs) and blended-mode resources including transdisciplinary and integrated pedagogies. The essential thinking, technology and life (work / entrepreneurial/survival) skills encompass mainly the 21st century skills of global citizenship with ethical values to be cultivated from early education in line with Sustainable Development Goals (SDGs). SEAMEO LeSMaT in a borderless world initiative will support SEAMEO Member Countries to fulfill Priority Areas #2, 3, 5 and 7 via promotion of student networking with the strengthening of SEAMEO collaboration through teaching, learning and assessment across educational system.

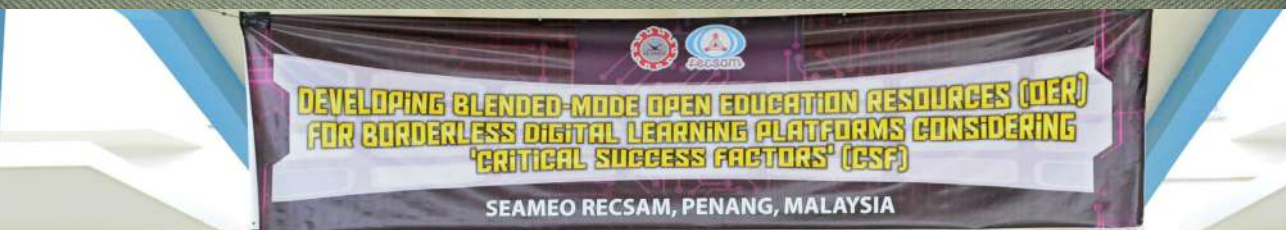
The LeSMaT (Borderless) project initiative was continued in F.Y. 2019 / 2020 with the following activities:

(A) The CSF6 (25/6/19), CSF7(21/8/19) and CSF8(30-31/10/2019) included:

- (1) Workshop (CSF6) on revising 'Conservation and Wise Use of Resources' (ConWUR) module based on expert review editor's comments in preparation for powerpoint video for online course;
- (2) Colloquium/Seminar (21 August)(CSF7) on the following topics:
 - 'Introducing Labirin the Mathematical board game for use by elementary and secondary school students' by Dr. Maman Fathurrohman from Universitas Sultan Ageng Tirtayasa, Indonesia.
 - 'Promoting lifelong learning and STEM literacy through non-formal / informal education: The roles and involvement of Ministry of Education



Colloquium on
 “Promoting Lifelong Learning and STEM Literacy through Non-formal /
 Informal Education: The Roles and Involvement of Ministry of Education Malaysia”
 21 August 2019



Workshop on
 “Preparation and Dissemination of LeSMaT Curriculum
 through Blended-Mode Activities”
 30 & 31 October 2019

(MoE) Malaysia' by Dr. Ihsan bin Ismail from National STEM centre, Ministry of Education, Kuala Lumpur, Malaysia.

- 'The roles of RECSAM to promote lifelong learning in STEM education: Experience and the way forward' by Dr. Ng Khar Thoe, SEAMEO RECSAM, Penang, Malaysia.

(3) Workshop (CSF8) on revising 'Telecare and Healthy Lifestyle' (TeleHeal) module based on expert review editor's comments; as well as preparation and dissemination of LeSMaT curriculum through blended-mode activities with powerpoint video for online course, e-book and other OERs posted onto social learning platforms such as Edmodo, Media 8, and Facebook.

(B) Conduct of LearnT-SMArET online course series 2 entitled 'LearnT SMArET with Promotion of Scientific / Mathematical Problem-Solving and Computational Thinking Skills' (7 & 21 November, 9 & 12 December 2019) and completed project submission due 30 April 2020.

(2) Other Research Projects

(a) Module Development of Learning Socio-Scientific Issues as a Global Citizen

This project is the first phase of Learning Socio-Scientific Issues as a Global Citizen research proposed for the 11th Five Year Development Plan 2020 – 2025. This phase of project is in-line with UNESCO's Sustainable Development Goal (SDG) target 4.7: Education for Sustainable Development

and Global Citizenship. The target is to ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development. Therefore, the main purpose of this project is to develop a teaching module on lower secondary science integrating socio-scientific issues to promote global citizenship behaviour. The module will be developed by a group of expertise from various fields related to the project. The project has the following objectives:

- To develop a teaching module on lower secondary science integrating socio-scientific issues (SSI) and global citizenship;
- To impart to students knowledge on SSI in local and global contexts to gain global perspectives;
- To measure the effectiveness of the teaching module in increasing students' awareness and understanding on SSI and promotion of global citizenship.

Expected project output:

- Phase 1 (2020 – 2021): A teaching module for Form One Science subject which integrates socio-scientific issues and global citizenship.
- Phase 2 (2021 – 2022): This module will be piloted to the students.

**(b) Mobile Application in Mathematics Education:
A Study among Malaysian Secondary School
Mathematics Teachers**

Developed countries are not left behind from technology. Education in developed countries is based on technology. Pertaining to this matter, numerous technologies have been innovated by experts for educators to make daily lessons fascinating. Among those, mobile phones have new features which are made to suit for education, especially in mathematics. The available software and online applications for mathematics classroom are GeoGebra, MathRush, MobileMath, Studierstube, Angle Tool, Video, Algorsketch, Multiplication Genius, Mad Math, Pop Math, Flash to Pass, Math Drills, Math Magic, Flowmath and Multiplication Flashcards to Go, Sara Skates, Birthday Café, Jungle Gym, BubbleFun, Breakfast Time, Lemonade Stand, Photo Friends and ParkPlay, AGILMAT, Web-based Mathematics Education (WME) system, and 4MALITY. According to Handal, El-Khoury, Campbell and Cavanagh (2013), all these applications were categorised into nine; (1) emulation, (2) simulation, (3) guided discovery, (4) measurement, (5) drawing / graphing, (6) composing, (7) informative, (8) drill and practice, and (9) tutorial apps. The studies by Drigas and Pappas (2015) revealed that mobile learning applications motivate students, make mathematics courses more fun and interactive than ordinary teaching practices. However, at the national level, the use of technology in the mathematics classroom is still something unanswered by researchers.

This project embarks on the following objectives:

- To develop an instrument on teachers' perception of using mobile applications in the secondary school mathematics classroom;

- To determine the availability of technology facilities at school;
- To identify the level of using technology in the mathematics classroom by Malaysian secondary school mathematics teachers.

Phase 1 covered the development of the instrument on teachers' perception of using mobile applications in the secondary school mathematics classroom. The items were developed through a review of the literature followed by teacher's face to face focus group interview at their respective schools. As of mid 2020, the literature review has been completed.

(c) Science Teachers' Technological Pedagogical and Content Knowledge on Augmented Reality

Technology has become embedded in education and the results indicate a positive impact on teaching and learning process in a classroom (Pierson, 2011). Lessons that are supported by technology will lead to more innovative forms of teaching and learning (Shapley et al., 2011). This is because the use of technology involves real-world problems, current informational resources, simulations of concepts, and communication with professionals in the field. Learning to use the technology is also believed to complement the traditional forms of teaching and learning (Yasak et al., 2010). The purpose of this study is to explore science teachers' Technological Pedagogical and Content Knowledge (TPACK) on the use of Augmented Reality (AR) in science education.

Generally, teachers are commonly known as the curriculum implementers in a school setting. Therefore, teachers not only have to adept and well-equipped with TPACK and digital skills in order to integrate the use of technology in a

classroom. According to Neumann et al. (2011), the integration of technology will provide a means to enhance students' learning and engagement in a classroom. Augmented reality (AR) is a new technology that has emerged with potential for application in education. According to Farhah, Dayana and Yahaya (2015), a lot of research has been conducted on AR, but only few studies have been conducted in education field. AR provides an efficient way to represent a model that needs visualization (Singhal et al., 2012). Therefore, this study is crucial to get an insight exploration from a teacher's TPACK on AR, their experiences on AR and in order to understand better the challenges faced by the teachers on AR in order to provide a greater support and collaboration in terms of research findings as well as workshops and training programmes. This study focuses on Malaysia science teachers' Technological Pedagogical and Content Knowledge (TPACK) on the use of Augmented Reality (AR) in science education.

This project embarks on the following objectives:

- i. To develop an instrument on science teachers' TPACK on Augmented Reality (AR) in science classrooms; and
- ii. To identify the level of using AR technology in science classroom by Malaysian secondary science teachers.

b) Capacity Building

For fiscal year 2019 / 2020, 1,418 participants across the SEAMEO region and beyond attended several training programmes, courses, seminars, workshops, and colloquia organised / offered / conducted by RECSAM.

(i) Regular Courses

RECSAM successfully conducted its two (2) regular courses for a total of 37 (thirty-seven) educators from 10 (ten) SEAMEO member countries. The duration of the courses was for a period of four weeks. Details of the regular courses conducted for F.Y. 2019 / 2020 (Batch 1) from 5 to 30 August 2019:

- RC-PS-144-1 Inquiry-based Learning in Primary Science Education
- RC-SM-144-2 Mathematical Problem in Real World Situation for Secondary Mathematics Classrooms

Fiscal Year	Courses	Number of Participants		Total
		Fee-Paying	On Scholarship	
2015/2016	4	0	76	76
2016/2017	4	3	58	61
2017/2018	4	0	64	64
2018/2019	4	0	59	59
2019/2020	2	0	37	37

SEAMEO Member Countries	Batch 1	
	Fee-Paying	On-Scholarship
Brunei Darussalam		4
Cambodia		4
Indonesia		2
Lao PDR		5
Malaysia		4
Myanmar		3
Philippines		4
Singapore		4
Thailand		4
Timor-Leste		0
Vietnam		3
Total		37

(ii) *In-Country Training Programmes / Courses*

RECSAM conducted two (2) in-country training courses during this fiscal year for a total of 116 educators.

- The in-country training course on “*Promoting Higher-Order Thinking (HOTS) and Meaningful Learning in Science through Questioning & Technology-Enhanced Learning*” was held at Preah Sisowath High School, Phnom Penh, Cambodia from 22 to 26 September 2019. A total of 58 high school science teachers attended the four-day workshop. The training workshop was aimed to provide the teacher participants with the necessary knowledge and skills required to foster HOTS among the school students, and to showcase the ways in embracing digital tools and web-resources to promote meaningful learning. This workshop gave participants the opportunities to enhance teaching and learning using higher level of questioning to promote



Regular Courses for F.Y. 2019 / 2020 (Batch 1)
RC-SM-144-2 Mathematical Problem Solving in Real-World Situation for
Secondary Mathematics Classrooms
5–30 August 2019



Regular Courses for F.Y. 2019 / 2020 (Batch 1)
RC-SM-144-2 Mathematical Problem in Real World Situation for
Secondary Mathematics Classrooms
5–30 August 2019



In-Country Training Course on
“Promoting Higher-Order Thinking (HOTS) and Meaningful Learning in Science through
Questioning & Technology-Enhanced Learning” for Cambodian teachers / educators
22–26 September 2019

higher-order thinking skills (HOTS). In line with the integration of digital devices in education, this workshop also acquainted participants to learning of science through E-learning exploring scientific phenomena using online resources and ICT based techniques for assessment and to engage participation in science learning relating to real world situations. These training courses were coordinated by Mr. Phann Bunnath and Mr. Bean Channy from Kampuchea Action to Promote Education (KAPE), for Ministry of Education, Youth and Sports in Cambodia. Mr. Lee Shok Mee and Mr. Liman Anthony, Science Education Specialists served as course facilitators.

- The in-country training course for a group of teachers and educators from the Philippines on “*21st Century Teaching in Science and Mathematics*” was recently held at Swiss-Belhotel Blulane, Santa Cruz, Manila from 18 to 22 November 2019. The main goal of this course was to advance the pedagogical competency of elementary Science and Mathematics teachers in enhancing students’ 21st Century learning and innovative skills. This course also equipped the participants with STEM approaches in Teaching and Learning Science and assessment in Science Lesson and effective questioning skills. Course participants were also trained to design STEM teaching aids using low-cost materials and develop lesson plans. This five-day in-country course was conducted by RECSAM’s Training Programme Specialists, Mr. Gan Teck Hock and Mr. Yuji Otsuka and organised by the Teaching and Learning Division, Bureau of Learning Delivery, Department of Education, Republic of the Philippines. A total of 58 (fifty-eight) participants participated in this course. These participants were divided into two groups namely (i) Science, and (ii) Mathematics.

The Science group consisted of 28 elementary Science teachers, while the Mathematics group consisted of 30 elementary Mathematics teachers.

(iii) *Customised Course / Short Course*

During fiscal year 2019 / 2020, five (5) customised / short courses were offered and 323 students and educators benefited from these programmes.

- A short training course for students and teachers from Kanchanapisek Wittayalai Nakhon Pathom School, Thailand on “*Enhancing Active Learning through STEM Education*” was held at RECSAM from 29 to 31 July 2019. This training course aimed to help students integrate STEM knowledge and skills in appropriate contexts and real world issues. The learning in real world context would help to develop student thinking and problem solving skills through inquiry-based learning and problem solving. Course participants experienced various instructional models and were engaged collaboratively to facilitate creativity and inquiry learning. Throughout the duration of the course, participants were also engaged in discourse, shaping arguments, solving problems, experimenting, designing, creating, and gathering supporting evidence. All the sessions involved hands-on activities of mathematics learning with special focus on problem-based and inquiry-based learning approaches. A total of 34 (thirty-four) students and seven (7) teachers participated in this training course.
- A three-day short course on “*Developing Critical Thinking and Reasoning in Mathematics through Problem Solving*” for 43 (forty-three) students from Matthayom Watnairong School, Bangkok, Thailand was held at RECSAM from 1 to 3 October 2019. Through this course, students were engaged

in different learning strategies to develop important Mathematics thinking and reasoning through various activities such as inductive reasoning to solve problems involving geometry and critical thinking skills in recreational mathematics. This course was activity-oriented and stressed on active involvement of participants in group discussions and demonstrations. Some major topics conducted in the course included strategies of problem solving in Mathematics, Geometrical transformations and patterns, games with deductive reasoning, and puzzle involving logic to name a few. Forty-three (43) secondary school students and 4 teachers participated in this programme.

- A five-day course on “*Developing 21st Century Skills through Science, Technology, Engineering and Mathematics (STEM)*” was conducted by RECSAM from 7 to 11 October 2019 for 33 (thirty-three) students and teachers from Benchamaratrungsarit 2 School, Chachoengsao, Thailand. This short course was aimed to engage the participants with the various active learning strategies to make sense of science, mathematics, technology and engineering so as to cultivate interest in these disciplines and develop scientific and mathematical / quantitative literacy as well as to motivate them to pursue careers in science, mathematics, technology and engineering. The course was activity-oriented and stressed on active involvement of participants in group discussions and demonstrations on various active learning strategies as well as ICT skills. Some major topics conducted in the workshop included Problem-based learning in Science and Mathematics, Exploring Science and Technology through toy making, Exploring Mathematics through hands-on activities and ICT-based Science and Mathematics learning.



- A short course on “*Learning Science and Mathematics through Inquiry Approach*” was conducted by RECSAM from 13 to 18 October 2019. A total of 66 students and 9 teachers from Datdaruni School, Chachoengsao, Thailand participated in this training course. This short course was aimed to engage participants with the various inquiry-based learning strategies to solve mathematics and science problems, understand selected science concepts through experiments and investigations and appreciate the beauty of mathematics through inquiry of recreational mathematics. This short course was activity-oriented and stressed on active involvement of participants in group discussions and experimental activities through inquiry. Some major topics highlighted during the course included solving mathematics problem through inquiry, problem-based learning in Science, and exploring STEM through Inquiry.
- Two batches of five-day courses on “*Enhancing 21st Century Learning through Science and Mathematics*” was conducted by RECSAM for students from Benchamaracharungsarit School, Thailand from 13 to 17 January 2020 and 20 to 24 January 2020 respectively. These short courses were aimed to engage the participants with the various active learning strategies to make sense of science, mathematics, technology and engineering so as to cultivate interest in these disciplines and develop scientific and mathematical / quantitative literacy as well as to motivate them to pursue careers in science, mathematics, technology and engineering. The course was activity-oriented and stressed on active involvement of participants in group discussions and demonstrations on various active learning strategies as well as ICT skills.

Some major topics conducted in the workshop included Problem-based learning in Science and Mathematics, Exploring Science and Technology through toy making, Exploring Mathematics through hands-on activities and ICT-based Science and Mathematics learning. These courses received a total of 131 participants, 64 students and 6 teachers for the first batch intake and 56 students and 5 teachers for the second batch intake.

(iv) *Workshops / Camps*

Workshops are enrichment activities organised by RECSAM for teachers, teacher educators and students from the SEAMEO member countries. The workshops' content are leading-edge developments in the teaching and learning techniques, approaches and strategies relevant to science and mathematics education. The workshops are facilitated by RECSAM's Specialists, local and foreign consultants, or RECSAM's specialists in partnership with invited consultants. A total of 16 (sixteen) training workshops were held in this fiscal year with a total number of 469 participants.

- A training workshop on "*Enhancing the Competency and Professionalism of STEM Teachers*" was conducted by RECSAM from 23 to 25 July 2019 for teachers / educators sponsored by the Teacher Education Division, Ministry of Education Malaysia. The main objective of this workshop was to provide participants the necessary knowledge and skills in conducting STEM lessons in their own classrooms. The course was designed to familiarise and orient participants with STEM approach in teaching & learning in the science and mathematics classrooms and centered on exposing the participants on various teaching and learning approaches in science / mathematics such as socio-scientific issues in STEM education and project-based learning.

This workshop was conducted for two and a half days with a combination of hands-on experience, minds-on sharing and active involvement on relevant topics facilitated by experienced facilitators. A total of 38 (thirty-eight) teachers had benefited from this training workshop.

- A training workshop on “*Effective Inquiry-based Learning in Science Lesson*” was held at RECSAM on 15 & 16 August 2019. Through this workshop, the facilitators, Mr. Yuji Otsuka, Science Education Specialist and Mr. Hiroshi Onishi, Senior Volunteer from JICA (Japan International Cooperation Agency) addressed the need for a creative approach to investigation with reference to situations in everyday contexts, making the process of investigation a meaningful experience for students. Workshop participants were also exposed to the fundamentals of Inquiry-Based Science Education (IBSE) as well as to recognise activities that demonstrate principles of inquiry-based learning and apply the approaches in their science classrooms. A total of 30 (thirty) participants attended the two-day workshop.
- A workshop on “*Enhancing Problem-Solving Abilities and Conceptual Understanding in Mathematics through GeoGebra*” was conducted by Dr. Warabhorn Preechaporn, Mathematics Education Specialist based at RECSAM on 28 & 29 Aug 2019. Participants of this workshop were exposed to the versatility of GeoGebra, a dynamic mathematics software via hands-on activities on geometry, algebra, statistics and calculus to enhance conceptual understanding of the topics. They were also taught how to use the basic features of GeoGebra software and the effective use of dynamic worksheets for teaching and to create student-engaging interactive materials. Twenty (20) participants benefited from the workshop.



- A workshop on “*Mathematical Understanding Amongst Undergraduate Students*” conducted by Prof. Dr. Masami Isoda from Tsukuba University, Japan was held at RECSAM from 2 to 4 August 2019 with the aim to promote mathematical understanding amongst undergraduate students from the Penang Teacher Training College. The purpose of this workshop was also to build students’ self-confidence, improve problem solving skills, enhance creativity and critical thinking in mathematics learning. The two-day workshop also exposed the participants to other workshop contents which include fractions, Mathematics curriculum framework, mathematical thinking, design thinking and computational thinking. A total of 25 (twenty-five) participants registered for the workshop. Specialists from the Research & Development Division together with the Centre Director served as coordinators of this workshop.
- A workshop on “*Active Learning in Mathematics Supported by Blended Mode Activities*” by Dr. Ryohei Miyadera, a Mathematics Educator from Kwansei Gakuin High School, Kobe City, Japan was held at RECSAM on 22 & 23 August 2019. This workshop was aimed to expose participants to exemplary active learning approaches in mathematics supported by problem-solving and technology-enhanced research-based activities and to enhance essential (thinking / technology / life) skills using mathematical games supported by digital tools and e-platforms in order to promote lifelong non-formal / informal education. Dr. Ryohei presented some exemplary methods to cultivate essential skills of high school students with sharing of cases on how these students became engineers, entrepreneurs and young

mathematicians through ongoing lifelong non-formal / informal education. More specifically, participants were also exposed to active learning strategies to promote convergent thinking skills supported by mathematical tools such as Mathematica and Mathics. A total of 19 (nineteen) participants registered for this workshop. Dr. Ryohei was assisted by two Japanese graduate students, six secondary school students and one company.

- Mr. Dominador D. Mangao, Acting Deputy Director (Research & Development), Mr. Yuji Otsuka, Specialist from the Training Programme Division, and Mr. Hiroshi Onishi, Senior Volunteer from JICA (Japan International Cooperation Agency) based at SEAMEO RECSAM joined the International Conference on Education and Teacher Development 2019 “*Changing Perspectives and Approaches in Education and Teacher Development*” organised by *Institut Pendidikan Guru (IPG)* Ipoh at Casuarina @ Meru, Perak from 23 to 25 July 2019. Both Mr. Yuji Otsuka and Mr. Hiroshi Onishi conducted a workshop on “*Effective STEM Teaching Aids Using Low-cost Materials*” and exposed participants to various hands-on science activities using flexibility and possibility of low-cost and universally designed science materials and practical skills to conduct effective experiments in science lessons. Meanwhile, Mr. Dominador Dizon Mangao ran a workshop entitled “*Revisiting Science Process Skills: Fundamentals of Inquiry and STEM Education*”. Through this workshop, he highlighted the importance of science process skills in inquiry and in doing higher levels of scientific investigations such as in STEM-related activities. During the workshop, participants were taught how to explore science process skills

and their importance in inquiry process as well as to plan and carry out a fair test investigation following the inquiry template with emphasis on variables. A total of 130 IPG students and lecturers participated in the two workshops conducted on 25 July 2019.

- A training workshop on “*Exploring Science through Toy Making*” for students from Hatyaiwittayalai 2 School, Thailand was held at RECSAM on 24 October 2019. The workshop, which was conducted by Mr. Yuji Otsuka, Science Education Specialist was aimed to introduce participants to a number of individual and group hands-on science activities based on “STEM Education”. Workshop participants were taught how to redesign and modify the materials to suit their needs in classroom science lessons and obtain practical science skills and knowledge to create effective teaching materials in their own lessons. Through this workshop, participants were able to conduct effective experiments in science lessons and design low cost teaching materials which can be used in actual lessons at schools through step by step guide. The one-day training was conducted in a workshop format with 5 to 6 participants in a group. Forty-two (42) students and teachers participated in this workshop.
- A workshop on “*Preparation and Dissemination of LeSMaT Curriculum through Blended-Mode Activities*” was recently held at RECSAM on 30 and 31 October 2019. The aim of the workshop was to refine and publish the output of LeSMaT (Borderless) through e-resources in support of subsequent LearnT-SMArET online training programme that will be conducted from November to December 2019. The output of the workshop was the publication of an e-book and PowerPoint videos of SE4ALL, TeleHeal,



**Workshop on
"Effective Inquiry-based Learning in Science Lesson"
15 & 16 August 2019**



**Workshop on
"Active Learning in Mathematics Supported by Blended-mode Activities"
22 & 23 August 2019**

ConWUR, and CADRRED for the purpose of dissemination and presentation during online course which was conducted on 21 November and 12 December 2019. The workshop received 16 (sixteen) participants. The workshop was facilitated by Dr. Ng Khar Thoe, Specialist from Research & Development Division.

- A training workshop on “*Sustainability and Ecobricks: How Can You Get Involved?*” was held at RECSAM on 16 January 2020. The workshop was conducted by Dr. Choong Jian Ming from Aimpactz Social Enterprise that primarily focuses on sustainability and creates positive impact. Through this workshop, Dr. Ming introduced the concepts of sustainability and Ecobricks, a simple, low-tech solution that empowers individuals to take charge of his/her own plastics. A total of 31 (thirty-one) RECSAM staff participated in the workshop.
- A training workshop on “*Computational Thinking: Artec-Robo for STEM Education*” was conducted by Research & Development Division on 21 January 2020. The workshop, which was coordinated by Dr. Murugan Rajoo and facilitated by RECSAM’s Centre Director, Dr. Suhaidah Tahir and Specialists, Dr. Mariam Othman, Dr. Murugan Rajoo and Mr. Liman Anthony was aimed to expose participants to 5C’s skills of computational thinking as they could integrated the 5C’s skills in their lessons. Through this workshop, participants were taught how to identify the skills in Computational Thinking for STEM education and components in Artec-Robo for STEM education. Workshop participants also worked in a group to develop robotic set for teaching in 21st century learning. Thirty-three (33) fee-paying participants registered for this workshop.

- A training workshop on “*Integrating Robotics in STEM Learning*” for Form 4 & 5 students from various secondary high schools in were held at RECSAM from 2 to 4 March 2020. The three-day workshop was aimed to develop skills in using technology-enhanced learning applications and robotics to improve computational thinking, creative thinking and critical thinking, to apply intelligibly the various effective mathematical and statistical theories that involve with problem solving in the real world situation, and to Acquire the practical skills in STEM learning. The workshop was divided into three core components. RECSAM's academic team, (i) Dr. Suhaidah Tahir, Dr. Murugan Rajoo, Dr. Mariam Othman and Mr. Liman Anthony conducted a session on “Computational Thinking and Robotics Programming”, (ii) Prof. Ivan Vysotskiy from Center of Educational Excellence (Department of Education) in Moscow, Russia exposed participants to various topics on “Application of Mathematical and Statistical Theories” meanwhile Mr. Yuji Otsuka and Mr. Hiroshi Onishi, RECSAM's academic team held a session on “STEM Activities”. Thirty (30) students and five teachers from Mara Junior Science College Pengkalan Hulu, Heng Ee High School, St. George's Girls' High School, Bukit Mertajam High School and Bakti National High School participated in this workshop.
- A training workshop on “*Teaching and Learning Module Preparation on Socio Scientific Issues (SSI) & Global Citizenship*” was held at RECSAM on 17 March 2020. The workshop was coordinated by Dr. Mariam Othman, Deputy Director of Research & Development Division. The aim of this workshop was to gather inputs from the experts on SSI and global citizenship and to develop a preliminary draft of teaching module on Form 1 Science subject integrating

socio-scientific issues and global citizenship. This workshop was conducted with a combination of group discussions and presentations. Ten (10) participants joined this workshop.

- A training workshop on “*MyJMS: A Journal Management System*” was held at RECSAM on 17 June 2020. The workshop was facilitated by Dr. Ng Khar Thoe & Mr. Dominador D. Mangao, Specialists from Research & Development Division that primarily focuses on the functions of MyJMS and the roles of authors, editors and copyeditors in a journal publication. Through this workshop, both Dr. Ng and Mr. Dominador introduced exposed workshop participants to MyJMS management system and how to utilise the system effectively. Workshop participants were also exposed to practical approaches in manuscript submission and editorial handling. A total of 17 (seventeen) RECSAM staff participated in the workshop.
- A training workshop on “*Why Choose StreamYard*” was conducted by RECSAM on 17 June 2020. The workshop, which was facilitated by RECSAM's Centre Director, Dr. Suhaidah Tahir was aimed to expose participants to StreamYard, a live streaming studio that allows user to create different scenes using available feeds while incorporating different graphics. Through this workshop, participants were taught how to create professional live streams, interview and share screens to online social media platforms. Thirteen (13) RECSAM staff registered for this workshop.
- A workshop on “*Computational Thinking Skills - Unplugged Activities*” by Dr. Elango Periasamy, Senior Lecturer, Mathematics Department, IPG (*Institut Pendidikan Guru*) Penang and Ms. Parimalarani Sivasubramaniam, Senior Lecturer, STEAM Department, IPG Kampus Ilmu Khas was held at RECSAM on 24 & 25 June 2020.



Dr. Elango Periasamy and Ms. Parimalarani exposed workshop participants to various insights on the concept of Computational Thinking (CT) through unplugged activities. This workshop was aimed to increase educators' awareness of CT and allow educators to explore and experiment with examples of CT that can be integrated into their subject areas. More specifically, workshop participants were exposed to knowledge and skills related to computational thinking (CT) and ways to integrate Computational Thinking Skills in teaching and learning activities for Mathematics and Science subjects by using Google Classroom and Google Meet to conduct online trainings via hands-on and experiential learning activities. A total of 15 (fifteen) participants registered for this workshop.

- A training workshop on “*Inquiry Based Learning vs Problem Based Learning in Mathematics Classrooms*” was held at RECSAM on 25 June 2020 for a group of teachers. The aim of this workshop was to expose participants to develop new ideas and perspectives on teaching mathematics. The workshop covered discussions about 5-E Learning Model and IBME (Inquiry Based for Mathematics Education) during COVID-19. Workshop participants were taught how to create activities based on inquiry learning in a Mathematics Classroom. The participants were also exposed to some interesting hands-on group activities focusing on developing inquiry based mathematics activities and discussion on the pandemic situation. This workshop was conducted by Dr. Wan Noor Adzmin Binti Mohd Sabri, Senior Lecturer, Mathematics Department, IPG (*Institut Pendidikan Guru Kampus Pendidikan Teknik*). A total of fifteen (15) teachers and educators had benefited from this training workshop.

(v) *Conferences / Congress / Seminars / Seminar-Workshops / Symposiums*

To provide more opportunities for science mathematics educators in the SEAMEO region to disseminate their research findings, RECSAM has also been organising its own conferences, congresses and seminars. This fiscal year, CoSMEd 2019 was held in conjunction with the TIMSS International Symposium and had attracted more than 224 participants:

- Teachers, educators, and researchers from different parts of the world gathered last 11 to 15 November 2019 at SEAMEO RECSAM to discuss and address issues on improving science and mathematics instructions for the 21st century during the “8th International Conference on Science & Mathematics Education (CoSMEd 2019)” which was held alongside with the “TIMSS International Symposium 2019”. The themes for the two events were “Aligning STEM Education with Education 4.0 and Sustainable Development Goals” and “TIMSS@20: Hindsights, Insights & Foresights”, respectively. With more than 120 paper presenters and researchers who gave presentation on topics that emphasized science and mathematics education for the 21st Century in the Southeast Asia. The Conference brought educators and researchers from across the globe together to discuss and deliberate on important issues pertaining to the educational development and reforms in science, technology and mathematics education in the Southeast Asian region and beyond, in relation to STEM education and Sustainable Development Goals. The conference was officiated by YB. Dato’ Ir. Hj. Ahmad Zakiyuddin bin Abdul Rahman, Penang Deputy Chief Minister I, the representative of Chief Minister of Penang Professor Zsolt Lavicza

from Linz School of Education, STEM Education Centre, Johannes Kepler University, Linz, Austria commenced the first keynote address of the 8th CoSMEd 2019 on *“Exploring STEAM Education Approaches to Foster Creativities and Innovations in Schools”* while Professor Donna King from Queensland University of Technology, Australia delivered her keynote address on *“Contexts, Emotions and Integration: A Decade of Research on Practical STEM Education”*. Professor Dr. Ismail bin Abdul Rahman from Universiti Tun Hussein Onn Malaysia, Malaysia delivered his keynote address on *“Malaysian Technical University Network (MTUN) in National TVET Agenda”* while Dr. Wan Wardatul Amani binti Wan Salim from International Islamic University of Malaysia, Malaysia gave her address on *“SporeSat: Lab-on-chip for Study of Single Cell in Space”*. The fifth keynote speaker, Mr. Aidan McCarthy from Microsoft, Singapore shared his expertise on *“Digital Transformation in Education”*. The keynote speakers for the TIMSS International Symposium were Professor Frederick K.S Leung from University of Hong Kong and Associate Professor Dr. Nor Idayu Mahat from Universiti Utara Malaysia. Professor Frederick K.S Leung delivered a keynote address on *“TIMSS@20: Significance of TIMSS for Southeast Asian Countries”* while Professor Dr. Nor Idayu Mahat gave her address on *“How Data Analytics Benefitting Education?”* The 8th CoSMEd 2019 was attended by 224 delegates from 14 countries (i.e.; Austria, Australia, Bangladesh, Brunei Darussalam, Hong Kong, India, Japan, Kazakhstan, Kyrgyz Republic, Malaysia, Philippines, Singapore, South Africa and Syria). A total of seven (7) keynote addresses, four (4) parallel sessions with 119 presentations,

a symposium and 12 (twelve) poster presentation sessions were held during this Conference. Wide arrays of topics with the following strands were presented during CoSMEd 2019: Teaching and Learning Innovation, Continuous Professional Development, Alternative Assessment / TIMSS, Technology as a Pedagogical Enabler and STEM Education and Career Development. A series of 15 (fifteen) workshops were also held within the Conference as follows:

- User Science: Hands-On Experience Design in Education by Idyawati Hussein
- Teaching and Learning Innovation: Optical Lens Animation by GSP by Benny Kong Tze Loong
- Recreational Mathematics and Running a Math Club in Schools by Santhanam Sundaram Ramachandran
- Developing Secondary School Students' Mathematical Reasoning Using Classwiz Scientific Calculator by Norjoharuddeen Mohd Nor & Leong Kwan Eu
- Mathematics, Modelling and the New Taxonomy of Educational Objectives by David Nutchey
- Creating Holographic Images in a Makerspace Environment by Gillian Kidman, Hazel Tan, Roland Gesthuizen & Dominador Mangao
- Exploring STEAM Education Approaches to Foster Creativities and Innovation in Schools by Professor Zsolt Lavicza
- Alchemy Experiments in the School Laboratory by Hiroshi Onishi

- Developing Secondary Students' Mathematical Modelling using Technology by Leong Kwan Eu & Norjoharuddeen Mohd Nor
- Connectivity of STEM Agenda from School to University: Relevancy of STEM Contents, Effective and Creative Delivery and Assessment by Professor Dr. Ismail bin Abdul Rahman
- Using Engineering as a Context for STEM Integration in the Primary Years by Professor Donna King
- Inspired to Transform Learning in a Makerspace by Roland Gesthuizen, Gillian Kidman, Hazel Tan, Dominador Mangao
- Characterisation of Electrochemical Transducers for Biosensor Applications by Dr. Wan Wardatul Amani Wan Salim @ Amani Salim
- PCET Calculator Workshop by Peter Chew
- An Overview of Global Citizenship by Dr. Suhaidah Tahir

(vi) *Colloquium*

- A colloquium on "*STEM or STEAM - A Context in Korean Education*" was held at RECSAM on 14 August 2019. The talk was facilitated by Professor Lew Hee-Chan, President of Korea National University of Education (KNUE). Ninety nine (99) teachers from primary and secondary schools as well as lecturers from Teacher Education Institutes (IPGs) in Penang and neighboring States participated in this event.
- RECSAM also organised a colloquium on "*Promoting Lifelong Learning and STEM Literacy through Non-formal / Informal Education*:"



**8th International Conference on
Science and Mathematics Education (CoSMEd 2019) on
“Aligning STEM Education with Education 4.0 and Sustainable Development Goals”
11 - 15 November 2019**



**Colloquium on
“Educators as Designers? Design Thinking in Sustainability Education”
16 January 2020**

The Roles and Involvement of Ministry of Education Malaysia and *Mathematical Games for Lifelong Learning* on 21 August 2019. The talk was conducted by invited speakers, Dr. Maman Fathurrohman from Universitas Sultan Ageng Tirtayasa, Indonesia and Dr. Ihsan bin Ismail, Head of Unit, National STEM Centre, Educational Planning and Policy Research Division, Ministry of Education Malaysia. This activity was participated in by 62 (sixty-two) teachers from nearby schools in Penang state.

- A colloquium entitled "*Climate Change Education*" was held on 17 October 2019 at RECSAM. The talk was facilitated by Mr. David Wilgenbus, Chief Executive Officer, Office for Climate Education, Paris, France. Fifty-nine (59) teachers from nearby schools in Penang state attended this event.
- A colloquium on "*Educators as Designers? Design Thinking in Sustainability Education*" was held on 16 January 2020 at RECSAM. The talk was facilitated by Dr. Choong Jian Ming from Aimpactz Social Enterprise. Twenty-nine (29) teachers from nearby schools in Penang state attended this event.

c) Recognition and Benchmarking

(i) *Engagement in Consultancy Services*

RECSAM Specialists have also been invited to provide consultancy services to local and international institutions. In this fiscal year, RECSAM's Specialists have been commissioned to take part in programmes and projects of mutual interest organised by the Education Ministries and leading agencies from the SEAMEO region and beyond.

- Dr. Suhaidah Tahir, Centre Director was involved as Speaker in the “*Young Southeast Asian Leaders’ Initiative (YSEALI) Regional Workshop on Empowering Southeast Asian Educators*” organised by US Embassy Kuala Lumpur, The Asia Foundation and Startup Malaysia at Pullman KLCC, Kuala Lumpur from 19 to 23 August 2019.
- Dr. Warabhorn Preechaporn, Specialist from Training Programme Division conducted a workshop on “*Meaningful Learning through 21st Century Learning Skills*” for 150 teachers / educators from Institute of Teacher Education Ipoh Campus on 22 October 2019.
- Mr. Lee Shok Mee, Consultant from Training Programme Division travelled to China to facilitate a training course on “*Science Pedagogy*” for a group of primary school teachers organised by Guangxi Normal University from 1 to 8 November 2019 at Guangxi Normal University.
- Mr. Liman Anthony, Specialist from Training Programme Division attended the “*Mesyuarat Pemurnian Modul Kompetensi & Profesionalisme Guru STEM di bawah Inisiatif #49 Kementerian Pendidikan Malaysia 2019*” organised by Bahagian Profesionalisme Guru, BPG at the Malacca State Department of Education from 5 to 7 November 2019.

- Ms. Teh Kim Hong, Specialist from Training Programme Division travelled to Japan and conducted a lecture on “*Subject Matter for Mathematics Education for Better Preparation of Mathematics Lessons*” organised by Center for Research on International Cooperation in Education Development (CRICED), University of Tsukuba in Japan from 15 to 21 January 2020.
- Dr. Ng Khar Thoe, Specialist from Research & Development Division was invited to Kota Kinabalu, Sabah as a co-researcher and writer for the “*Module Development of Integration of 5E Instructional Model in Enhancing Rural Primary Pupils’ Knowledge and Attitudes towards Learning STEM*” research project funded by Universiti Malaysia Sabah (UMS) Special Research Grant from 4 to 6 March 2020.
- Dr. Suhaidah Tahir, Centre Director gave an online presentation on “*The Future of STEM Education is Now*” in a webinar organised by IPG Kampus Raja Melewar on 9 June 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division and Mr. Liman Anthony, Specialist from Training Programme Division were invited to attend a meeting on the “*Development of Competency Instrument for STEM Teachers (Initiative #49 on Strengthening STEM Education)*” organised by Teacher Professionalism Division, Ministry of Education Malaysia at Putrajaya on 22 & 23 June 2020.

(ii) *Centre's Involvement in the Development and Implementation of Policy / Strategy / Programme / Activities by the Education Ministries and Agencies from the SEAMEO Region and Beyond*

- Dr. Suhaidah Tahir, Centre Director attended the “*50th Southeast Asian Ministers of Education Organization (SEAMEO) Council Conference (SEAMEC) 2019*” organised by the Ministry of Education Malaysia and SEAMEO Secretariat at Sunway Hotel Resort & Spa Kuala Lumpur from 22 to 25 July 2019.
- Dr. Suhaidah Tahir, Centre Director attended the “*South East Asia Sustainability Network (SEASN) Third Assembly*” organised by the South East Asia Sustainability Network (SEASN) at Olive Tree Hotel, Penang on 29 July 2019.
- Ms. Bhavani Ramasamy attended the “*Third Country Training Programme (TCTP) Workshop*” organised by Malaysian Technical Cooperation Programme (MTCP) and Japan International Cooperation Agency (JICA) at Marina Putrajaya, Putrajaya on 1 August 2019.
- Dr. Suhaidah Tahir, Centre Director attended the Opening & Closing Ceremony of “*Persidangan Penyelidikan dan Inovasi Pendidikan Kebangsaan Dan Pesta Buku Insitut Pendidikan Guru 2019*” organised by *Institut Pendidikan Guru (IPG)* Penang Campus on 27 & 29 August 2019 at IPG Penang Campus.
- Ms. Bhavani Ramasamy, Programme Officer from Training Programme Division participated in the “*Kajian Pelaksanaan Program Latihan Malaysian Technical Cooperation Programme (MTCP) 2019 / 2020*” workshop organised by the Malaysian Technical Cooperation Programme (MTCP) at INSPEN Putrajaya from 25 to 27 November 2019.

- Dr. Suhaidah Tahir, Centre Director attended the “*Hari Karnival Sains Teknologi Kejuruteraan Matematik (STEM), Peringkat Negeri Perlis 2019*” organised by SK Kampong Salang at SK Kampong Salang, Kangar, Perlis on 14 October 2019.
- Dr. Suhaidah Tahir, Centre Director attended the “*Central Curriculum Committee Meeting No. 2/2019*” organised by the Curriculum Development Division at the Ministry of Education Office in Putrajaya on 21 October 2019.
- Dr. Suhaidah Tahir, Centre Director and Mr. Dominador D. Mangao, Acting Deputy Director for Research & Development attended the “*Monthly Regional Management Committee (MANCOM) Meeting*” with the officials from the Department of Education Regional Office VI-Western Visayas, Iloilo City, Philippines at Grand Xing Hotel, Iloilo City, Philippines on 28 & 29 October 2019.
- Dr. Suhaidah Tahir, Centre Director attended the “*Best of the Best Showcase & Symposium on PIBKS#PBL@SEKOLAH: Transforming Mindset, Nurturing Talents*” organised by MOE Malaysia, Multimedia University, Bank Simpanan Nasional, and Universiti Teknologi MARA at HGH Convention Centre, Kuala Lumpur on 31 October 2019.
- Dr. Suhaidah Tahir, Centre Director was invited to attend the “*Majlis Penutupan-Pameran, Forum dan Penganugerahan sempena Program Pembangunan dan Latihan Profesional Guru – Place-based Learning (PBL): Real-Life Classroom in the 21st Century*” organised by Persatuan Pendidikan Seni Pulau Pinang (Arts-ED) on 15 November 2019.

- Dr. Suhaidah Tahir, Centre Director was invited to attend the “*APEC Meeting on Computational Thinking Curriculum for the Digital Economy: Synthesis Meeting for Recommendation*” organised by Institute for Research and Development in Teaching Profession for ASEAN (IRDTP) at IRDTP, Khon Kaen University, Thailand from 18 to 20 November 2019.
- Dr. Ng Khar Thoe, Specialist from Research & Development Division attended the “*7th Union of International Associations (UIA) Round Table Asia-Pacific*” organised by the Union of International Associations (UIA), Brussels on 19 and 20 September 2019 at Royal Cliff Grand Hotel in Pattaya, Thailand.
- Dr. Mariam Othman, Specialist from Research & Development Division attended the “*14th Convocation Ceremony of Politeknik Tuanku Sultanah Bahiyah*” at Politeknik Tuanku Sultanah Bahiyah, Kulim on 30 September 2019.
- Dr. Murugan A/L Rajoo, Specialist from Research & Development Division attended the “*Pemurnian Modul Kompetensi dan Profesionalisme Guru Bidang Sains, Teknologi, Kejuruteraan dan Matematik (STEM) di bawah inisiatif #49 Pengukuhan Pendidikan STEM Tahun 2019*” meeting organised by *Bahagian Profesionalisme Guru (BPG)* in Melaka from 5 to 7 November 2019.
- Dr. Mariam Othman, Specialist from Research & Development Division attended “*Jawatankuasa Kurikulum Negeri Bil 3/2019 dan Mesyuarat Penyelarasan DTP Negeri dan Daerah Bil 2/2019*” meeting organised by *Jabatan Pendidikan Negeri Pulau Pinang* on 28 November 2019.



42nd SEAMEO High Officials Meeting (HOM)
Berkeley Hotel, Bangkok, Thailand
26 – 28 November 2019



50th SEAMEO RECSAM Governing Board Meeting (GBM)
24 – 26 September 2019



RECSAM's contingent during the Merdeka Day Parade
31 August 2019



Management Retreat
Hotel Le Polonia, Medan, Indonesia
4 – 6 December 2019



144th Certificate Presentation Ceremony of Regular Courses F.Y. 2019/2020 (Batch 1)
30 August 2019



8th International Conference on Science and Mathematics Education (CoSMEd 2019)
11 – 15 November 2019



RECSAM's Family Dinner
DoubleTree Resort by Hilton Penang
19 October 2019



Workshop on "Effective Inquiry-based Learning in Science Lesson"
15 & 16 August 2019



Short Course on "Enhancing 21st Century Learning through Science and Mathematics"
13 – 17 January 2020



RECSAM Inks MoU (Memorandum of Understanding) with Mindanao State University-Iligan Institute of Technology
6 February 2020



Workshop on "Computational Thinking: Arteco-Robo for STEM Education"
21 January 2020



A uniquely Malaysian Chinese New Year Celebration
7 February 2020



Visit by Sacred Heart Convent School
Bangkok, Thailand
23 October 2019



RECSAM
11th Five-Year Development Plan Workshop
24 & 25 June 2019



SEAMEO Centre Directors' Meeting (Virtual)
15 & 16 July 2020



Third STEM Study Contest
24 August 2019

- Dr. Ng Khar Thoe attended a discussion meeting with the Principal Assistant Director, Ms. Zalina at her office in Ministry of Education Co-curriculum Division, Putrajaya on 25 November 2019.
- Dr. Suhaidah Tahir, Centre Director attended the “*Kerjasama Pendidikan STEM Malaysia-Singapura Bil. 1/2020*” meeting organised by the Educational Planning and Research Division, Ministry of Education Malaysia at Putrajaya on 3 January 2020.
- Dr. Warabhorn Preechaporn, Acting Deputy Director & Ms. Bhavani Ramasamy, Programme Officer from Training Programme Division attended a briefing session on “*Management and Implementation Guideline for Malaysian Technical Cooperation Programme (MTCP) Year 2020*” organised by Malaysian Technical Cooperation Programme, Ministry of Foreign Affairs Malaysia on 10 January 2020.
- Dr. Suhaidah Tahir, Centre Director and Dr. Mariam Binti Othman, Deputy Director (Research & Development) attended the “*Consultation Meeting - SEAMEO Strategic Plan (2021 – 2030) on Science and Culture*” organised by SEAMEO Secretariat, 8 to 10 January 2020 in Bangkok, Thailand.
- Dr. Suhaidah Tahir, Centre Director and Ms. Rashidah Othman, Acting Deputy Director (Administration) cum Accountant attended the “*Kertas Cadangan Permohonan Peruntukan untuk Perbelanjaan Pembangunan SEAMEO RECSAM Mulai Tahun Kewangan 2020 / 2021 sehingga Tahun Kewangan 2024 / 2025*” meeting at the International Relation Division, Ministry of Education Malaysia at Putrajaya 30 January 2020.

- Dr. Suhaidah Tahir, Centre Director attended the “*Jawatankuasa Kurikulum Kebangsaan 1/2020 at Curriculum Development Division*” meeting organised by the Curriculum Development Division, Ministry of Education Malaysia at Putrajaya on 21 February 2020.
- Dr. Suhaidah Tahir, Centre Director and Dr. Mariam Binti Othman, Deputy Director (Research & Development) participated in a workshop on “*Penyelarasan Modul Pembangunan Professionalism Guru STEM di bawah Inisiatif 49: Pengukuhan Pendidikan STEM*” organised by Institute of Teacher Education Malaysia, Cyberjaya at *IPG Kampus Pendidikan Teknik*, Bandar Enstek, Negeri Sembilan on 3 & 4 March 2020.
- Dr. Suhaidah Tahir, Centre Director participated in the “*Bengkel Akta Kerja, Pembuangan Pekerja, Pembuangan Konstruktif Pekerja*” organised by *Koperasi Sahabat Pesara Selangor* at Bangi Resort Hotel on 5 March 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division and Mr. Liman Anthony, Specialist from Training Programme Division attended the “*Development of Competency Instrument for STEM Teachers Meeting*” organised by the Teacher Professionalism Division, Ministry of Education Malaysia on 17 March 2020 at Perak District Education Office, Perak.
- Dr. Suhaidah Tahir, Centre Director joined the “*Jawatankuasa Kerja COVIC-19 Negeri Pulau Pinang*” meeting organised by Penang State Government at Penang State Government Office at KOMTAR on 17 March 2020.

- Dr. Suhaidah Tahir, Centre Director together with the a team Administration Division Managers joined the “*Jawatankuasa Kerja Teknikal COVIC-19 Negeri Pulau Pinang*” meeting organised by the Penang State Government at Penang State Government Office at KOMTAR on 19 March 2020.
- RECSAM's academic staffs from both Research & Development and Training Programme Divisions were invited to attend the “*Co-Impact Concept Note Online Preparation Meeting*” organised by SEAMEO Secretariat on 1 April 2020 and 27 April 2020.
- Dr. Mariam Othman, Dr. Ng Khar Thoe, Dr. Murugan Rajoo and Mr. Dominador D. Mangao, academic staff from Research & Development Division attended an online meeting on the “*Preparation of SEAMEO Webinar 6 - World Environment Day*” organised by SEAMEO Secretariat on 18 May 2020.
- Dr. Mariam Othman, Deputy Director and Dr. Ng Khar Thoe, Specialist from Research & Development Division joined an online meeting with SEAMEO Centre Directors and Secretary-General / Coordinator coordinated by SEAMEO Secretariat on 9 June 2020.

2.2 KRA 2: REGIONAL VISIBILITY

a) Strengthening Linkages with Inter-Centre, National, Regional, and International Institutions

(i) *Collaborative Activities Conducted With Inter-Centre / Regional / International Institutions and Community Involvement*

Apart from the mainstream linkages with the ministries of education of the member and associate member countries, collaboration with other institutions and organisations had enabled the Centre to stay in the mainstream of global educational developments. During the period in review, the Centre established and / or renewed formal agreements with various institutions and carried out activities to foster closer relationships with them.

- RECSAM and Kanchanapisek Witthayalai Nakhonpathom (Pratumnang Suankulab Matthayom), Thailand recently signed a Memorandum of Understanding (MoU) to facilitate academic cooperation between the two institutions. The MoU was signed by Dr. Suhaidah Tahir, Centre Director of SEAMEO RECSAM and Mr. Suriya Chainaphong, Principal of Kanchanapisek Witthayalai Nakhonpathom on 29 July 2019 at RECSAM, Penang. Through this partnership, both institutions will conduct joint educational-related research activities, training programmes, staff exchange programmes, partnership on implementation of joint programmes and activities as well as other educational projects in areas of mutual interest. The signing ceremony was witnessed by Ms. Teh Kim Hong, Acting Deputy Director (Training Programme) of SEAMEO RECSAM and Mrs. Suyada Hengchaiyo. Also present at the event was the management and professional team of RECSAM.

- RECSAM and Korea National University of Education sealed their partnership through a Memorandum of Understanding (MoU) signed on 14 August 2019 at RECSAM, Penang. The MoU was signed by Dr. Suhaidah Tahir, Centre Director of SEAMEO RECSAM and Prof. Lew Hee-Chan, President of the Korea National University of Education. Signing as witness was Ms. Teh Kim Hong, Acting Deputy Director from Training Programme Division. Also present in the signing ceremony were the management and professional staff of RECSAM. Establishing a partnership through a MOU allows the two institutions to collaborate on programmes and projects that interest both parties. This also formalizes the sharing of expertise, best practices, and knowledge in the field of science and mathematics education.
- RECSAM inked a Memorandum of Understanding (MoU) with Thepsatri Rajabhat University, Thailand. The signing ceremony was held at SEAMEO RECSAM, Penang on 19th November 2019. The objective of this MoU signing ceremony aims to collaborate on joint research and educational projects; training programmes; exchange of publications, academic materials, and other information; exchange of academic, researchers, technical and administrative staff; and to promote any other co-operation of mutual interest. The MoU document was signed by the Centre Director, Dr. Suhaidah Tahir and Asst. Prof. Chintana Vechmee, President of Thepsatri Rajabhat University and was witnessed by Ms. Teh Kim Hong, Acting Deputy Director (Training Programme) of SEAMEO RECSAM and Asst. Prof. Dr. Kanya Kongsoongnoen. Also present in the signing ceremony were the management and professional staff of RECSAM.

- RECSAM and Iloilo Science and Technology University (ISATU), Philippines recently signed a Memorandum of Understanding (MoU) to facilitate academic cooperation between the two institutions. The MoU was signed by Dr. Suhaidah Tahir, Centre Director of SEAMEO RECSAM and Dr. Raul F. Muyong, the University President on 28 October 2019 at Iloilo Science and Technology University, La Paz, Iloilo City, Philippines. Through this partnership, both institutions will conduct joint educational-related research activities, training programmes, staff exchange programmes, partnership on implementation of joint programmes and activities as well as other educational projects in areas of mutual interest. The signing ceremony was witnessed by Mr. Dominador D. Mangao, Acting Deputy Director (Research & Development) and Dr. Nemia H. Mabaquiao, Director (National and International Affairs) of ISATU. Also present at the event were the academic and administrative staff of Iloilo Science and Technology University, Philippines.
- RECSAM and Guimaras State College sealed their partnership through a Memorandum of Understanding (MoU) signed on 26 October 2019 at Guimaras State College, Buenavista, Guimaras, Philippines. The MoU was signed by Dr. Suhaidah Tahir, Centre Director of SEAMEO RECSAM and Dr. Rogelio T. Artajo, College President. Signing as witnesses were Mr. Dominador D. Mangao, Acting Deputy Director (Research & Development) and Dr. Ruby D. Catalan, Vice-President for Academic Affairs. Establishing a partnership through a MoU allows the two institutions to collaborate on programmes and projects that interest both parties such as the sharing of expertise, best practices, and knowledge in the field of science and mathematics education.

- RECSAM recently inked a Memorandum of Understanding (MoU) with Mindanao State University-Iligan Institute of Technology, Philippines. The signing ceremony was held at SEAMEO RECSAM, Penang on 6 February 2020. The objective of this MoU signing ceremony aims to collaborate on joint research and educational projects; training programmes; exchange of publications, academic materials, and other information; exchange of academic, researchers, technical and administrative staff; and to promote any other co-operation of mutual interest. The MoU document was signed by the Centre Director, Dr. Suhaidah Tahir and Dr. Sukarno D. Tanggol, Chancellor of Mindanao State University-Iligan Institute of Technology and was witnessed by Dr. Mariam Binti Othman, Deputy Director (Research & Development) of SEAMEO RECSAM and Dr. Amelia T. Buan, Dean, College of Education. Also present in the signing ceremony were the management and professional staff of RECSAM.
- RECSAM recently inked a Memorandum of Agreement (MoA) with Society for Research Development (SRD), India. The signing ceremony was held at SEAMEO RECSAM, Penang on 25 June 2020. The objective of this MoA signing ceremony aims to collaborate on joint research and educational projects; training programmes; exchange of publications, academic materials, and other information; exchange of academic, researchers, technical and administrative staff; and to promote any other co-operation of mutual interest. The MoA document was signed by the Centre Director, Dr. Suhaidah Tahir and Prof. Dr. R.C. Singh, President of Society for Research Development (SRD). Also present in the signing ceremony were the management and professional staff of RECSAM.

- RECSAM recently inked a Memorandum of Agreement (MoA) with Southeast Asian Institute of Educational Training, Inc., (SEAIETI) to foster mutual understanding on collaboration and cooperation in the field of training and development in Science, Mathematics and Technology. The signing ceremony was held virtually at SEAMEO RECSAM, Penang on 29 June 2020. The objective of this MoA is to collaborate on joint research and educational projects; training programmes; academic materials, and other information; use of its training facilities; and to promote any other co-operation of mutual interest. The MoA document was signed by the Centre Director, Dr. Suhaidah Tahir and Prof. Dr. Eduardo M. Soliman, Managing Director of SEAIETI.

(ii) *Visitors to RECSAM*

RECSAM also organised and served as host to many groups of visitors. During this fiscal year, various personages from different local and international agencies, institutions, government and non-government organisations, visited RECSAM. They were briefed on the Centre's programmes and activities, given a tour of RECSAM facilities, or oriented to a particular project of RECSAM. Through these visits, the Centre established and developed working relationships with other organisations and institutions for programmes and activities that are of mutual interest. The list below shows the organisations and its details that visited RECSAM in the fiscal year 2019 / 2020.

- Mr. Kamarulizham Hazizi, Director, Teachers Training Institute, Penang Campus, 1 July 2019
- Ms. Lanita Binti Md. Yusof, Assistant Director, Curriculum Development Division, MOE Putrajaya, 31 July 2019

- Mr. Lim Sotharith, Ministry of Education, Youth and Sports, Cambodia, 31 July 2019
- Ms. Siti Yusnidar, Assistant Director, Teachers Professionalism Division, MOE Putrajaya, 31 July 2019
- Ms. Aney Marinda, Assistant Director, Teachers Professionalism Division, MOE Putrajaya, 31 July 2019
- Mrs. Ma Gemma M. Ledesma, Director III, Department of Education, Philippines, 31 July 2019
- Prof. Dr. Lilia Halim, Universiti Kebangsaan Malaysia, 31 July 2019
- Ms. Shahrizah Abdullah, Programme Officer 1, SEAMEO Secretariat, 31 July 2019
- Mr. Fernando A. Artates - Accounting Head, SEAMEO SEARCA, 7 August 2019
- Mr. Renante A. Dumaraos - Internal Audit Specialist, SEAMEO SEARCA, 7 August 2019
- Ms. Lovely Grace R. Urriza - HR Specialist, SEAMEO SEARCA, 7 August 2019
- Ms. Katherine H. Ancheta - Planning and Budget Associate, SEAMEO SEARCA, 7 August 2019
- Ms. Karen M. Javier, Facilities Assistant, SEAMEO SEARCA, 7 August 2019
- Mr. Billie Boa S. Novardo, Facilities Unit Head, SEAMEO SEARCA, 7 August 2019
- Dr. Nelson a/l Cyril, Educator, SMK Pondok Upeh, Balik Pulau, 21 August 2019
- Dr. Ihsan Ismail, Head, National STEM Centre, Ministry of Education, 21 August 2019
- Ms. Rosnah Ramli, Teachers Training Institute Ipoh Campus, 29 August 2019

- Mr. Abu Kassim Ali Musa, Teachers Training Institute Ipoh Campus, 29 August 2019
- Mr. Ammar Fikri Abu Kassim, Teachers Training Institute Ipoh Campus, 29 August 2019
- Dr. Noradzimah A. Majid, Teachers Training Institute Ipoh Campus, 29 August 2019
- Ms. Aizatul Husna bt. Abu Kassim, UiTM, 29 August 2019
- Mr. Mazlan bin Samsudin, Deputy Director, Curriculum Development Division, Ministry Of Education, Putrajaya, 30 August 2019
- Prof. Dr. Ismail Abdul Rahim, Deputy Vice Chancellor, UTHM, 19 September 2019
- Dr. Ravikumar Varatharaj, Director, Teachers Training Institute Ipoh Campus, 10 October 2019
- Mr. David Wilgenbus. OCE, 17 October 2019
- Mr. Tanutthaphat Atitanakiri, Sacred Heart Convent, Bangkok, 23 October 2019
- Dr. Pathitta Piyasabulsewee, Sacred Heart Convent, Bangkok, 23 October 2019
- Ms. Salmah Md Salleh, Teachers Training Institute, Technic Education Campus, 4 November 2019
- Dr. Tan Tong Hock, Teachers Training Institute, Technic Education Campus, 4 November 2019
- Ms. Nor Afizah Mohd Noor, Teachers Training Institute, Technic Education Campus, 4 November 2019
- Mr. Mohamed Yunus Yasin, President ASTI, 6 November 2019
- Mr. Roland Gesthuizen, Monash University, Australia, 11 September 2019

- Dr. David Nutchey, Queensland University of Technology, 11 September 2019
- Dr. Hazel Tan, Monash University, 11 September 2019
- Assoc. Prof. Gillian Kidman, Monash University, Australia, 11 September 2019
- Prof. Donna King, Queensland University of Technology, 11 September 2019
- Dr. S.R. Sanlhanam, President AIMER, India, 11 September 2019
- Mr. H. Rahul Dev Sharma, Student of Sri Prakash School, India, 11 September 2019
- Ms. Chintana Vechmee, President, Thepsatri Rajabhat University, Thailand, 19 November 2019
- Dr. Kanya Kong Soongnoen, Vice President for Planning & International Relations, Thepsatri Rajabhat University, Thailand, 19 November 2019
- Ms. Sasiwimon Sutthisan, Vice Dean of Student Affairs, Thepsatri Rajabhat University, Thailand, 19 November 2019
- Mr. Pornthep Katchamat, Deputy Director of Language Centre, Thepsatri Rajabhat University, Thailand, 19 November 2019
- Ms. Wantanee Boonsuwan, Assistant to the President of Thepsatri Rajabhat University, Thailand, 19 November 2019
- Ms. Sachi Watanabe, JICA Malaysia, 19 November 2019
- Ms. Koari Nakayama, JICA Malaysia, 19 November 2019
- Ms. Noorul Yahaya, JICA Malaysia, 19 November 2019

- Mr. Edi Syahputra, S.Pd, Head, Kumpulan Ikatan Guru Indonesia, 24 December 2019
- Ms. Zakiah Hassan, Senior Assistant Commissioner, National Anti-Corruption Commission, 14 January 2020
- Ms. Zetty Zarina Saharudin, Senior Commissioner, National Anti-Corruption Commission, 14 January 2020
- Mr. Ahmad Kamal bin Abdul Rahman, Assistant Commissioner, National Anti-Corruption Commission, 14 January 2020
- Ms. Munaliza Binti Mohd Anuar, Head, Senior Assistant Commissioner, National Anti-Corruption Commission, 14 January 2020
- Mr. Shamsul Bahrain Md Yusuf, Politeknik Tuanku Sultanah Bahiyah, 14 January 2020
- Dr. Nor Asniza Ishak, School of Education Studies, Universiti Sains Malaysia, 3 February 2020
- Dr. Sukarno Tanggol, Chancellor, MSU-Iligan Institute of Technology, Philippines, 6 February 2020
- Ms. Amelia Buan, Dean, College of Education, MSU-Iligan Institute of Technology, Philippines, 6 February 2020
- Mr. Gandencio C. Petalcorin Jr., Vice Chancellor, MSU-Iligan Institute of Technology, Philippines, 6 February 2020
- Mr. Mazlan bin Samsudin, Deputy Director, Curriculum Development Division, Ministry Of Education, Putrajaya, 16 March 2020
- Dr. Elango Periasamy, Lecturer, Teachers Training Institute, Penang Campus, 11 June 2020

- Assoc. Prof. Zulkiflee Daud, Lecturer, Universiti Utara Malaysia, 16 June 2020
- Dr. Mohd Rashdan, Lecturer, Universiti Utara Malaysia, 16 June 2020

(iii) Other Centres / Existing Partners or Organisations / New Contacts / Individuals:

- Six staff from SEARCA based in Los Baños, Laguna, Philippines visited RECSAM from 7 to 9 August 2019 as part of the SEAMEO Staff Exchange Programme. The delegation included Mr. Fernando A. Artates, Unit Head (Accounting), Mr. Billie Boy J. Navarro, Unit Head (Facilities Management), Ms. Lovely Grace R. Urriza, Human Resource Specialist, Ms. Renante A. Dumaraos, Internal Audit Specialist, Ms. Katherine H. Ancheta, Planning and Budget Associate and Ms. Karen M. Javier, Facilities Assistant. The delegates were briefed on RECSAM's programmes and operational & administrative support services which included finance and audit operations, human resource management, facilities management and operations, information technology and other general services (information and documentation). The purpose of the exchange programme was to enhance cooperation and partnership between and among SEAMEO Centers and the SEAMEO Secretariat, as well as strengthening capacities of its staff along their respective areas of interest and expertise. Such staff exchange visits provide opportunities for the participants to broaden their knowledge and exchange best practices and experiences in their particular discipline or areas of expertise. The program also serves as a ground to build stronger linkages and strengthen inter-center collaboration among SEAMEO centers.

- RECSAM recently organised the Third STEM Study Contest on 24 August 2019 for students of Penang. A total of 224 primary and secondary students and 65 teachers from Penang took part in this activity, which was under the “*Program Penggalakan Sains & Teknologi (PPST) Pulau Pinang 2019*”, an initiative funded by the Penang Education Council. The one-day programme seeks to spur primary and secondary school students’ interest in science, technology, engineering and mathematics (STEM). This annual programme is aimed to develop the interest in STEM learning among school students and promote solving real world issues in classrooms. The study contest was divided into two categories, primary and secondary; and opened to all students in Penang, ranging from Year Three students in primary schools to Form 4 secondary school students. This project enables students to experience for themselves about STEM learning and teachers alike to experience how STEM activities can be carried out in schools. Fun and meaningful activities such as the air pressure challenge, the gravitational pull challenge and the energy conversion challenge were specially designed for this contest. SMS Tun Syed Sheh Shahabudin was the overall champion for the Air Pressure Challenge, SMK Teluk Air Tawar emerged as winner for the Gravitational Pull Challenge while SMK Permatang Tok Jaya was the winner for the Energy Conversion Challenge under the secondary school category. For the primary school category, SK Bukit Gambir emerged champion for the Air Pressure Challenge while SK Jalan Hamilton was the winner of the Energy Converter Challenge. This year’s programme received huge participation from 42 schools across the Penang state. All deserving

winners were given recognition and received their prizes from Dr. Suhaidah Tahir, Centre Director of RECSAM and Ms. Fatimah Hassan of Penang Education Council.

- RECSAM played host to a group of delegates from Sacred Heart Convent, Bangkok, Thailand on 23 October 2019. The delegation was led by Ms. Pathitta Piyasakulseewee and Mr. Tanutthaphat Atitanakiri and was accompanied by seven primary school and one secondary school student. The objectives of the visit was to share the research project done with the Grade three students who were taught using board game and to develop the confidence of the students in a foreign setting. Mr. Yuji Otsuka, Science Education Specialist conducted a science workshop and exposed participants to various hands-on science activities. Through this workshop, participants were able to produce musical instrument using straws, propelling a boat using steam and travelling of sound. The Centre Director and staff from the Training Programme Division witnessed the demonstration of teaching through the board game and the students also had enjoyable time learning.

(iv) Centre / Network's Partners

During this fiscal year, the Centre also conducted collaborative programmes and activities with the support of the following institutions and agencies below:

- Academy of Science, France
- Academy of Science Malaysia
- Association for Science Education, United Kingdom
- Association for the Development of Education in Africa (ADEA)
- Association of Science and Mathematics Coaches of the Philippines (ASMaC Philippines)
- Association of Science and Mathematics Teachers of Penang
- Bahagian Pendidikan Menengah, Majlis Amanah Rakyat (MARA)
- Brawijaya Smart School, Universitas Brawijaya, Indonesia
- British Council, Kuala Lumpur
- Colombo Plan Secretariat
- CRICED (Center for Research on International Cooperation in Educational Development) University of Tsukuba, Japan
- Datdaruni School, Chachoengsao, Thailand
- Deakin University, Australia
- Guimaras State College, Philippines
- Iloilo Science and Technology University (ISATU), Philippines

- Iloilo Science & Technology University, Philippines and Department of Education (DepED), Philippines
- Institute for the Promotion of Teaching Science and Technology (IPST), Thailand
- Institute of Teacher Education (IPG), Malaysia
- Institut Kimia Malaysia (IKM)
- International Council of Associations for Science Education (ICASE)
- International GeoGebra Institute
- International Science Technology and Innovation Centre for South-South Cooperation under the Auspices of UNESCO (ISTIC)
- Japan International Cooperation Agency (JICA)
- Kamphaeng Phet Rajabhat University, Thailand
- Kanchanaburi Rajabhat University, Thailand
- Kanchanapisek Witthayalai Nakhonpathom (Pratumnang Suankulab Matthayom), Thailand
- Khon Kaen University, Thailand
- Korea National University of Education
- Malaysian Technical Cooperation Programme (MTCP)
- Mathematics Education Department, Sriwijaya University, Indonesia
- Mindanao State University-Iligan Institute of Technology
- Ministry of Education, Culture, Sports, Science and Technology, Japan
- Ministry of Education, Malaysia
- Ministry of Foreign Affairs, Malaysia

- Ministry of Higher Education, Malaysia (Polytechnic Education Dept)
- Nakhon Si Thammarat Rajabhat University (NSTRU), Thailand
- Persatuan Melayu Pulau Pinang (PEMENANG)
- Persatuan Pendidikan Sains dan Matematik Pulau Pinang (ASMEP)
- Petrosains Malaysia
- Politeknik Sultanah Bahiyah
- Rajabhat Maha Sarakham University, Thailand
- Regional Centre of Expertise (RCE) on Education for Sustainable Development (ESD), Universiti Sains Malaysia
- SEAMEO Ministries of Education
- SEAMEO Secretariat, Thailand
- SEAMEO Sister Centres
- Society for Research Development (SRD), India
- Southeast Asian Institute of Educational Training, Inc., (SEAIETI)
- Sriwijaya University, Indonesia
- State Education Department, Penang
- Thepsatri Rajabhat University, Thailand
- UNESCO
- UNESCO IBE (International Bureau of Education)
- UNECSO MGEIP (Mahatma Gandhi Institute of Education for Peace and Sustainable Development)
- Universiti Kebangsaan Malaysia (UKM)
- Universiti Malaya (UM)

- Universiti Malaysia Sabah (UMS)
- Universiti Pendidikan Sultan Idris (UPSI), Malaysia
- Universiti Sains Malaysia (USM)
- Universiti Teknologi Malaysia (UTM)
- Universiti Utara Malaysia (UUM)
- University of Canterbury, New Zealand
- University of Monash, Australia
- University of New South Wales, Australia
- University of South Australia
- University of the Philippines National Institute for Science and Mathematics Education Development (UP NISMED), Philippines
- University of Western Sydney, Australia
- University Technology Sydney, Australia
- Valaya Alongkorn Rajabhat University, Thailand

b) Increase Means for Stakeholders to Access SEAMEO Programmes

(i) Marketing of RECSAM's Programmes, Facilities and Services

The efforts to increase access to RECSAM's programmes, facilities and services to markets within and beyond the SEAMEO region were sustained. The Marketing Unit continued to identify new market outlets for its programmes and International House, amidst a very competitive environment prevailing in the region. Advertising the Centre's events and activities in the local media, distribution of promotional brochures and flyers to prospective clients, wider circulation of the Centre's publications such as the Journal of Science and Mathematics Education in

Southeast Asia (JSMSEA), Learning Science and Mathematics Journal (LSM Journal) and RECSAM newsletters, hosting of regional and international seminars, congress and conferences as well as the display of banners and posters at international events outside RECSAM and official visits by officers and academicians had helped to publicise the Centre's programmes and facilities widely.

The regular practice of RECSAM's managerial and academic staff meetings with leading educationists and experts at regional and international events had helped the Centre expand contacts and strengthen its international links. The quality of the Centre's programmes and support facilities had also impressed visitors to the Centre.

RECSAM staff also went all out to support the Merdeka Day celebration on 31 August 2019. In Penang, the state-level Merdeka celebration was held at Dataran Pemuda Merdeka in Jalan Haji Ahmad Said, Butterworth, where over 113 contingents from government departments and agencies, schools, institutions of higher learning, uniformed and non-governmental organisations took part in the Merdeka parade. This time, RECSAM's contingent comprised of 27 (twenty-seven) staff representing Deputy Directors, Specialists, Managers, Technical Assistants, Administrative Assistants as well as General Assistants. Mr. Taufek Muhamad, Deputy Director (Administration) was the head of the contingent while Mr. Azwan Hanafi Abu Hashan from the Administration Unit, was the commander. The parade was attended by His Excellency, Tuan Yang Terutama Tun Dato' Seri Utama (Dr.) Haji Abdul Rahman Bin Haji Abbas, the Governor of Penang, Chief Minister Y.B. Tuan Chow Kon Yeow and state executive councilors.

(ii) Publications Produced by the Centre

Several publications were produced at RECSAM to compliment the workshops and conferences as well as to continue running the biannual Journal. Brochures and flyers with promotional information and newsletters were distributed widely from time to time.

The lists of publications are as follows:

- Journal of Science and Mathematics Education in Southeast Asia Volume 42 (December 2019)
- Enhancing Teacher's Professional Development Through Lesson Study: The Case of Penang Science Teachers
- SEAMEO RECSAM 11th Five-Year Development Plan
- SEAMEO RECSAM Annual Report F. Y. 2018 / 2019
- SEAMEO RECSAM 50th Governing Board Meeting Proceedings
- Periodical newsletters Volume 50, Number 1, 2, 3
- Executive Summaries of Programmes and Activities in F. Y. 2018 / 2019 for Centre Directors' Meeting and High Officials' Meeting
- Programme Book for 8th International Conference on Science and Mathematics Education (CoSMEd 2019) and TIMSS International Symposium 2019
- Brochures for courses / workshops / seminars and congress and conferences

(iii) *Centre's Presentation in Regional and International Conferences / Congress / Seminars / Workshops / Professional Visits*

Professional development of our staff had been central and vital in the growth of RECSAM's services to educators of this region and beyond. In this fiscal year, to date, about 27 (twenty-seven) human resource development programmes were provided to the academic staff members:

- Dr. Ng Khar Thoe and Mr. Yuji Otsuka, Specialists from RECSAM participated in a training workshop on "*Computer Science Education*" organised by the International Science, Technology and Innovation Centre (ISTIC) for South-South Cooperation under the Auspices of UNESCO at Seri Pacific Hotel, Kuala Lumpur from 1 to 5 July 2019.
- Dr. Suhaidah Tahir (Centre Director), Mr. Dominador D. Mangao (Acting Deputy Director) and Dr. Murugan A/L Rajoo (Specialist) from Research & Development Division attended the "*Malaysia Psychometrics Symposium 2019*" organised by the Malaysian Psychometrics Association (MPA) at Institut Integriti Malaysia in Kuala Lumpur on 3 July 2019.
- Dr. Suhaidah Tahir (Centre Director) and Dr. Ng Khar Thoe (Specialist from R&D Division) attended the "*Fourth ISTIC Biennial International Conference on Women in Science Technology and Innovation on Empowering Women Through Technology*" organised by the International Science, Technology and Innovation Centre (ISTIC) for South-South Cooperation under the Auspices of UNESCO at Sunway Putra Hotel, Kuala Lumpur on 22 & 23 July 2019.

- Dr. Suhaidah Tahir (Centre Director), Mr. Dominador D. Mangao (Acting Deputy Director for Research & Development) and Dr. Warabhorn Preechaporn (Specialist from Training Programme) travelled to Seoul, South Korea to attend the “*4th International Conference on Global Citizenship Education (GCED) on Pedagogy and Practice*” organised by Asia-Pacific Centre of Education for International Understanding (APCEIU) at Seoul Dragon City Hotel Complex on 3 & 4 September 2019.
- Dr. Suhaidah Tahir (Centre Director), Mr. Dominador D. Mangao (Acting Deputy Director for Research & Development) attended the “*International Seminar at Korean National University of Education*” organised by the Graduates Studies, Korean National University of Education (KNUE) in Cheongju, South Korea on 5 and 6 September 2019.
- Dr. Suhaidah Tahir (Centre Director), Mr. Dominador D. Mangao and Mr. Yuji Otsuka (Specialists) from RECSAM attended the “*First International Conference on Educational Leadership and Management (1st ICELAM)*” organised by the Ministry of Education Malaysia from 1 to 4 October 2019 at Institut Aminuddin Baki Cawangan Genting Highlands.
- Mr. Liman Anthony and Mr. Gan Teck Hock, Specialists from Training Programme Division attended a workshop on “*Climate Change Education*” organised by the International Science, Technology and Innovation Centre for South-South Cooperation under the auspices of UNESCO in Langkawi Island, Kedah from 14 to 18 October 2019.

- Mr. Lee Shok Mee, Consultant from Training Programme Division attended the “*International Council of Associations for Science Education (ICASE) World Conference on Science and Technology Education 2019*” organised by the International Council of Associations for Science Education (ICASE) and presented an academic paper at the Conference held in Pattaya, Thailand from 2 to 6 December 2019.
- Dr. Suhaidah Tahir (Centre Director) together with Dr. Mariam Othman, Dr. Murugan A/L Rajoo and Mr. Liman Anthony, Specialists from RECSAM participated in the “*Module of Scratch Workshop*” organised by Balik Pulau Makerspace at Balik Pulau, Penang on 18 December 2019.
- Dr. Suhaidah Tahir (Centre Director), Mr. Dominador D. Mangao and Mr. Yuji Otsuka (Specialists) from RECSAM were invited as resource speakers in the Bridges Colloquium for Mentors 2019 on “*Gearing up Philippines Education through Pedagogical Enhancement of 21st Century Skills*” organised by Guimaras State College at Buenavista, Guimaras, Philippines from 25 to 27 October 2019.
- Dr. Murugan A/L Rajoo, Specialist from Research & Development Division attended the “*5th International Conference on Arts, Business, Social Science and Education 2019 (ICABSSE 2019)*” organised by the International Postgraduate Group Malaysia in Cebu, Philippines from 22 to 24 November 2019.
- Mr. Dominador D. Mangao, Specialist from Research & Development Division traveled to Japan to participate in the “*Visiting Foreign Research Fellowship Programme*” organised by CRICED, University of Tsukuba, Ibaraki, Japan from 1 to 31 December 2019 at University of Tsukuba, Ibaraki, Japan.

- Dr. Suhaidah Tahir, Centre Director and Dr. Mariam Othman, Deputy Director (Research & Development) travelled to Japan to attend the “SEAMEO-The University of Tsukuba Symposium on Education for Inclusive Growth on 4th Industrial Revolution for Society 5.0” and “APEC-Tsukuba Conference XIV on Information and Data Science Education Reform for Digital, Inclusive and Sustainable Society” organised by SEAMEO Secretariat and University of Tsukuba, Tokyo at Tokyo, Japan from 10 to 14 February 2020.
- Dr. Suhaidah Tahir, Centre Director, Dr. Mariam Othman, Dr. Ng Khar Thoe, Mr Dominador Dizon Mangao, and Ms. Ong Mei Yean staff from Research & Development Division participated in the “*Malaysian Journal Management System (MYJMS) Training 2020*” organised by Malaysia Citation Centre (MCC) at Malaysia Citation Centre, Ministry of Education Malaysia at Putrajaya on 27 February 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division and Mr. Liman Anthony, Specialist from Training Programme Division participated in the “*Development of Competency Instrument for STEM Teachers Workshop*” organised by the Teacher Professionalism Division, Ministry of Education Malaysia from 3 to 5 March 2020 at Kluang District Education Office, Johor.
- Dr. Ng Khar Thoe, Specialist from Research & Development Division participated in a Webinar on “*Using Custom WoS Data to Identify the Hottest Areas of Emerging Research*” organised by Web of Science (WoS) Group on 27 April 2020.
- Dr. Suhaidah Tahir (Centre Director), Dr. Mariam Othman, Dr. Murugan Rajoo, Dr. Ng Khar Thoe and Mr. Dominador Dizon Mangao, Specialists

from Research & Development Division participated in a webinar on *“Emotional and Psychosocial Health during COVID-19 Pandemic”* organised by SEAMEO Secretariat on 29 April 2020.

- Dr. Suhaidah Tahir (Centre Director), Dr. Mariam Othman, Dr. Murugan Rajoo, Dr. Ng Khar Thoe and Mr. Dominador Dizon Mangao, Specialists from Research & Development Division participated in a webinar on *“Learning Continues: Making Distance Learning, Open Education Resources and Online Resources Matter during COVID-19 Education Disruption”* organised by SEAMEO Secretariat on 30 April 2020.
- RECSAM's academic staff from both Training Programme and Research & Development Divisions participated in online webinars on *“Learning and Mobility in Lockdown: Snapshots of COVID-19 Effect”* and *“Resilient Southeast Asia: COVID-19 Responses and Best Practices”* organised by SEAMEO Secretariat on 7 May 2020 and 14 May 2020 respectively.
- RECSAM's academic staff from both Training Programme and Research & Development Divisions joined an online webinar on *“Quality Learning and Assessments during the COVID-19 Pandemic”* organised by SEAMEO Secretariat on 28 May 2020.
- Dr. Ng Khar Thoe, Specialist from Research & Development Division participated in a webinar on *“21st century skills: How do national education systems work to foster them and what is the role for Global Partnership for Education (GPE)?”* organised by Global Partnership for Education (GPE) on 28 May 2020.

- Dr. Murugan Rajoo, Specialist from Research & Development Division participated in a webinar on *“Leaving No One Behind, Sustaining Sustainability for Diverse & Dispersed Community during the Global Pandemic”* organised by Universiti Malaysia Sarawak on 30 May 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division and Ms. Teh Kim Hong, Specialist from Training Programme Division participated in the *“SEAMEO-UNESCO Joint Webinar on World Environment Day : COVID-19 Effects on Biodiversity: Science Education Reimagined”* organised by SEAMEO Secretariat and UNESCO on 5 June 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division participated in a webinar on *“Embracing a New-Normal in Early Childhood Education (ECE) and Parenting”* organised by SEAMEO Secretariat on 11 June 2020.
- Dr. Murugan Rajoo, Specialist from Research & Development Division participated in a webinar on *“Developing Flexible and Technology-Mediated Learning Programmes”* organised by SEAMEO Secretariat on 22 June 2020.
- Ms. Teh Kim Hong, Specialist from Training Programme Division participated in a webinar on *“Making the Most of Children’s Literature: A Context to Explore Math and Understand the World (Grades 3 – 5)”* organised by the National Council of Teachers of Mathematics – 100 Days of Professional Learning on 16 June 2020.
- Ms. Teh Kim Hong, Specialist from Training Programme Division joined a webinar on *“It’s All about Connections: Let’s See Why Geometry & Algebra Belong Together! (Grades 6 – 8)”* organised by the National Council of Teachers of Mathematics – 100 Days of Professional Learning on 24 June 2020.

2.3 KRA 3: SOLID RESOURCE BASE

a) Financial Viability

The total revenue for fiscal year 2019 / 2020 has decreased by 39.7% from RM 1, 858,488.35 in the past fiscal year to RM 1, 119,297.11. The decreased was mainly due to the uncertainty of the COVID-19 outbreak and the absence of various training workshops and Search of SEAMEO Young Scientists+ (SSYS+) Congress due to this pandemic. The decline was a result of the impact caused by the outbreak and the implementation of Movement Control Order (MCO) in the country as operations were ceased and rental of in-house facilities and guest rooms at the International House were also affected.

The Centre's Reserve Fund as of 30 June 2020 decreased to RM 7, 742,389.14 as compared to RM 8, 449,408.46 in F.Y. 2018 / 2019. The amount transferred from the Reserve Fund was intended to finance the purchase of software, licenses and computer & multimedia peripherals which was approved during the Governing Board Meeting last year.

There was an increase in expenditure from the operating funds by 1.5% from RM 6, 544,108.78 in the last fiscal year to RM 6, 646,525.58 largely due to emolument expenses. The rise in emolument is primarily due to annual salary and wages increments.

There was a decrease in expenditure from the Special Funds by 47.9% in this fiscal year. The Centre managed to conduct two (2) Regular Courses (Batch 1) and received 37 participants from 10 SEAMEO countries during this fiscal year. Due to the uncertainties of the current COVID-19 pandemic situation, the second batch of the Regular Courses which has been pre-scheduled in April 2020 has also been cancelled.

The impact of COVID-19 in Malaysia and around the world has generated a high degree of volatility and uncertainty. Hence, at RECSAM, we believe it is a

sound and timely call to re-negotiating contracts, and reducing all non-essential expenditures to ensure the Centre is financially healthy.

b) Management Efficiency

In addition to attending the SEAMEO Council Conference (SEAMEC), High Officials' Meeting (HOM), Centre Directors' Meeting (CDM), and Governing Board Meeting (GBM), in-house meetings were also conducted by the Centre to provide more opportunities for the Centre Director, academic and management staff towards managerial competence and to discuss the progress of on-going projects. Experiences and advanced knowledge gained from the meetings and workshops were shared through existing communication media within the Centre.

(i) In-House Meeting

At RECSAM, in-house meetings and workshops were regularly held to ensure all activities ran smoothly and efficiently. The primary meetings, all chaired by the Centre Director, were those that included the academic staff in their pursuit of executing all programmes for our clients, while the management meetings comprised all Deputy Directors and Executives. The Personnel Advisory (PAC) Committee Meetings were conducted once in two months to discuss service and other matters relating to staff. Other meetings, of equal importance, were held within a period of time to facilitate the organising of conferences / congress, for example, CoSMEd and SSYS⁺ organising and working committee meetings.

- A Management Retreat for the management and academic team members of RECSAM was held from 4 to 6 December 2019 at Hotel Le Polonia, Medan, Indonesia with the objective of bridging thoughts within the Centre to consciously and collectively recommend the way forward for

the Centre's upcoming plan. The Meeting was chaired by Dr. Suhaidah Tahir, Centre Director of RECSAM. Respective heads from each division (Administration, Training Programme and Research & Development) presented their 2020 annual plans which had been determined based on the Centre's strategic goals and key results areas (KRAs). Each division was required to set individual key performance indicators (KPIs) based on its job scope and responsibilities in line with the Centre's strategic goals. This was followed by discussion of other issues & concerns and setting of calendar of events for 2020. With this alignment, the staff will have a clearer vision of the Centre's direction and what is expected of them.

(ii) Regional Workshop of the 11th Five-Year Development Plan

- The Regional Workshop of the 11th Five-Year Development Plan was convened from 31 July to 2 August 2019. Ms. Sharizah Binti Abdullah, Programme Officer I, representing the Director of the SEAMEO Secretariat officially preceded the workshop on the formulation of the 11th Five-Year Development Plan for SEAMEO RECSAM. Others present during the workshop were officials and Governing Board members from the Ministries of Education of the SEAMEO Member Countries as well as consultants from Universiti Kebangsaan Malaysia (UKM), Teacher Education Division & Curriculum Development Division of Ministry of Education Malaysia, University of Tsukuba Japan and RECSAM's academic and management staff. The workshop was held for three days at RECSAM, Penang. Each Division (Training Programme, Research & Development and Administrative Division) was given the opportunity to propose the draft of research projects, programmes and

activities of the 11th Five-Year Development Plan based on five strategic goals for the upcoming five fiscal years to the invited Governing Board Members and local and foreign experts. The recommendations and inputs gained from the three-day workshop will then serve as a basis for RECSAM to devise ways and means in order to remain relevant by increasing the impact of its research projects, programmes and activities while maintaining its regional visibility in the Southeast Asia region and beyond.

(iii) SEAMEO Centre Directors' Meeting

- The Annual Meeting of SEAMEO Centre Directors (CDM) this year was held at Hotel Nikko Bangkok, Bangkok, Thailand from 6 to 8 August 2019. More than 100 participants attended the Meeting, comprising the Centre Directors, Deputy Directors, key officials of SEAMEO Centres / Network, representatives from SEAMEO Associate and Affiliate Members as well as the invited presenters and observers. During the three-day meeting, the participants brought in a considerable number of ideas and constructive suggestions to enhance feasibility and success of the activities. The meeting also tackled proposals for new projects and collaborative activities. Representing RECSAM were Dr. Suhaidah Binti Tahir, Centre Director and Mr. Dominador D. Mangao, Acting Deputy Director (Research & Development). During the meeting, the Centre Director presented the progress of the SEAMEO Basic Education Standards (SEA-BES) Phase 2 - Teaching to Transform: 21st Century Skills and Design Thinking in STEM Contexts and the proposal for funding of the same under the SEAMEO inter-centre collaboration programme.

(iv) SEAMEO RECSAM 50th Governing Board Meeting

- SEAMEO RECSAM Governing Board Members of the 11 (eleven) SEAMEO Member Countries and the SEAMEO Secretariat convened the 50th Governing Board Meeting (GBM) at Kuala Lumpur, Malaysia from 24 to 26 September 2019. The Governing Board Members and Representatives in attendance were Mr. Haji Shamsulbahri bin Haji Muhammad (Brunei Darussalam), Mrs. Ma. Gemma M. Ledesma (Philippines), Mr. Chua Chor Huat (Singapore), Dr. Phuriwat Khamaikawin (Thailand), Mr. Somphay Sengvilaysack (representing Mr. Khambay Khamsy from Lao PDR), Mr. Mazlan Bin Samsudin (representing YBhg. Dato' Sulaiman Bin Wak from Malaysia), Mr. Lim Sotharith (representing Mr. Or Siem of Cambodia) and Dr. Wahyudi Yososutikno (Ex-Officio representing Dr. Ethel Agnes Pascua-Valenzuela, Director of SEAMEO Secretariat). Dr. Suhaidah Tahir, the Centre Director of RECSAM thanked the Governing Board members, representatives and observers for attending the meeting despite their busy schedules and expressed her hope to have a successful meeting that could drive the Centre to greater heights. Mr. Haji Shamsulbahri bin Haji Muhammad, the Chairman of the Governing Board, expressed his sincere appreciation to all the former Board members for their contributions and dedication. He also complimented their contributions which had enabled the last GBM to pass resolutions needed in the operation and development of SEAMEO RECSAM. He also welcomed all honorary members and the representatives of the Board, the representative from SEAMEO Secretariat, the observers and all that were present in the meeting and hoped to have a very resourceful meeting to produce

resolutions that can transform RECSAM into an excellent Centre following its mandated programmes and activities. Dr. Wahyudi Yososutikno, representing the Director of SEAMEO Secretariat noted several achievements and successes of SEAMEO RECSAM in the past fiscal year and acknowledged the Centre's involvement in SEAMEO Education Standards and Student Networking project, one of the 12 initiatives by SEAMEO Secretariat under the Golden SEAMEO (2011 – 2020). He also expressed his gratitude to the Governing Board Members who always generously provided precious and valuable technical inputs and professional advice to the Centre as well as the Government of Malaysia for its continuous support to SEAMEO RECSAM. Mr. Haji Shamsulbahri bin Haji Muhammad, the Governing Board Member from Brunei Darussalam was elected as the Chairman of RECSAM's Governing Board while Mr. Mazlan Bin Samsudin (representing YBhg. Dato' Sulaiman Bin Wak) from Malaysia was elected as the Vice-Chairman of the Governing Board for F.Y. 2019 / 2020 – F.Y. 2020 / 2021. In this year's Governing Board Meeting, the Centre tabled a total of eight (8) working papers and six (6) information papers for the deliberation of the board members. Among other key working papers submitted for considerations were: (i) Matters Arising from the Resolutions of the 49th Governing Board Meeting 2018, (ii) Strategic and Operational Plans, Programmes and Proposed Budgets for Three Fiscal Years 2020 / 2021, 2021 / 2022 and 2022 / 2023 and Personnel Strength Budget for Fiscal Year Ending 30th June 2021, (iii) Proposed SEAMEO RECSAM 11th Five-Year Development Plan for F.Y. 2020 / 2021 – F.Y. 2024 / 2025 and



**SEAMEO Centre Directors' Meeting (CDM) in Bangkok, Thailand
6-8 August 2019**



**50th SEAMEO RECSAM
Governing Board Meeting (GBM) in Kuala Lumpur, Malaysia
24 – 26 September 2019**



**SEAMEO RECSAM
Management Retreat in Medan, Indonesia
4 – 6 December 2019**

(iv) Proposed Amendment to the Staff Rules and Regulations 1995 (Revised – September 2015). After lengthy deliberations, the working papers were adopted with recommendations that RECSAM continues to keep its programmes flexible and relevant to the changing times and devise ways to increase the impact of its programmes and activities in the region. Other information papers reported the updates of the (i) Survey Research Report on RECSAM's Regular Courses for F.Y. 2017 / 2018 and F.Y. 2018 / 2019 (Batch 1), (ii) Report of the RECSAM SEASO (SEAMEO Science Olympiad) 2019, (iii) Report on the 8th International Conference on Science and Mathematics Education (CoSMEd) 2019 and TIMSS International Symposium 2019, (iv) Update on the 12th Regional Congress on SEAMEO Search for Young Scientists Plus (SSYS+) 2020, (v) Report on Southeast Asia Basic Education Standards (SEA-BES) Phase 2, and (vi) Report on SEAMEO Learning Science and Mathematics Together (LeSMaT) in a Borderless World. The annual Governing Board Meeting is an important platform for Governing Board Members nominated by the eleven SEAMEO Member Countries to discuss the policy, management and administration of SEAMEO RECSAM, as well as to review the Centre's achievements in the last fiscal year and planned activities and programmes.

(v) *42nd SEAMEO High Officials Meeting*

- The 42nd SEAMEO High Officials Meeting (HOM) is the forerunner of the regular SEAMEO Council Conference organised by the SEAMEO Secretariat. The 42nd HOM this year was conducted from 26 to 28 November 2019 at Berkeley Hotel, Bangkok, Thailand.

The meeting was presided by H. E. Mr. Nataphol Teepsuwan, Minister of Education, Ministry of Education, Thailand. This year's meeting saw a participation of more than one hundred high education officials and representatives from various Ministries of Education of SEAMEO Member States, representatives from SEAMEO Associate Members and Affiliate Members, and observers from partner organisations of SEAMEO with the purpose of discussing the educational, scientific and cultural directions and development in Southeast Asian nations. Dr. Suhaidah Tahir, Centre Director attended the meeting and presented two proposal papers, namely: (i) Proposal on the 11th Five-Year Development Plan of SEAMEO RECSAM for Fiscal Year 2020 / 2021 – 2024 / 2025 and (ii) Update on SEAMEO Basic Education Standards (SEA-BES) Phase2 - Teaching to Transform: 21st Century Skills and Design Thinking in STEM Contexts.

(vi) *SEAMEO RECSAM Mid-Year Review Workshop*

- RECSAM's MID-YEAR REVIEW Workshop 2020 was held on 10 June 2020. The workshop was aimed at presenting and reviewing the annual work targets (*Sasaran Kerja Tahunan*) 2020 based on Key Performance Indicators (KPIs) set by the Centre during the Management Retreat held last year and to communicate & create plan for any changes within the Centre, team, roles or objectives that will affect the second half of the year. The continued Covid-19 pandemic has caused significant social and economic disruption, and RECSAM, a regional Centre based in Malaysia has also been affected with this disruption. Through this workshop, the management and professional staff reviewed and set new directions and execution plans for

the next 6 months through cost-cutting measures and expansion of web-based trainings to replace physical trainings for the Centre to achieve its annual work target. In this workshop, RECSAM's management and academic team also discussed the revision of annual work targets and the needs to develop a solid half yearly plan with clear deliverables to ensure the Centre is on the right track. Workshop participants consist of management and professional staff of RECSAM.

c) Human Resource Management

(i) Staffing

Staffing strength stood at 76 (seventy-six) as of 30 June 2020. There were 10 (ten) staff that left the Centre during this fiscal year. The departure of staff included one (1) Centre Director, one (1) Deputy Director, three (3) Specialist, one (1) Consultant, one (1) Manager, one (1) Technical Assistant and two (2) Administrative Assistants.

Dr. Suhaidah Tahir, Centre Director of RECSAM retired from home service on 29 June 2020. Mr. Taufek Bin Muhamad, Deputy Director based at Administration Division ended his secondment term at RECSAM and left on 11 November 2019.

Mr. Mohd Hazlie Bin Muhamad and Dr. Mohd Nor Syahrir Bin Abdullah both Specialists based at Research & Development Division ended their contract with RECSAM and left on 8 September 2019 and 24 October 2019 respectively.

Mr. Gan Teck Hock, Specialist based at Training Programme Division resigned and left the Centre on 28 February 2020. Mr. Lee Shok Mee, Consultant based at Training Programme Division ended his contract and left the Centre on 31 January 2020.

Ms. Nur Farahdina Binti Omar, Administrative Manager based in the Administration Division was called to end her service at RECSAM and left the Centre on 18 March 2020.

Both Ms. Jenny Ong Lay Sim, Administrative Assistant based at Research & Development Division and Mr. Yusof Bin Abu, Technical Assistant at Printery retired and left on 31 December 2019 and 15 May 2020 respectively.

Mr. Ruzbihan Hadi Bin Ahmad Bakhtiar, Administrative Assistant based at RECSAM International House ended his contract and left on 31 December 2019.

In its bid to streamline work procedures and enhance the specialization as well as replace the vacated posts, RECSAM employed one (1) Deputy Director (Research & Development), and three (3) new Administrative Assistants based at the International House.

Dr. Mariam Binti Othman is the new Deputy Director of Research & Development Division who joined RECSAM on 1 September 2019. Both Mr. Thevand A/L Rajeswaran and Mr. Ruzbihan Hadi Bin Ahmad Bakhtiar joined RECSAM International House as the new Administrative Assistant since 1 August 2019 while Mr. Muhammad Raziq Bin Othman Ghani had joined as Administrative Assistant (Daily Contract Worker) since 13 January 2020.

Table 1: Staff Strength for fiscal year 2019/2020 (ending 30 June 2020)

Category	Non-Malaysian	Malaysian
Director		0
Deputy Director		1
Senior Specialist		0
Specialist	3	4
Consultant / JICA Senior Volunteer	1	0
Manager		4
Programme Officer		2
Research Officer		1
Officer / Technical Officer		8
Technical Assistant		9
Administrative Assistant		15
General Assistant		28
<i>Sub-Total</i>	4	72
Total		76

(ii) Staff Welfare

Financial assistance had been a mainstay in RECSAM's role of being a caring organisation towards the well-being of its staff members. Staff members enjoyed the continuous support in terms of medical insurance, welfare loan, housing loan interest subsidy, vehicle loan interest subsidy, computer loan and gratuity payment upon retirement.

Table 2: Type of Welfare Assistance for fiscal year 2019 / 2020 (ending 30 June 2020)

Type of Welfare Assistance	Number of Staff
Welfare Loan	31 staff
Housing Loan Interest Subsidy	-
Vehicle Loan Interest Subsidy	-
Computer Loan	1 staff
Gratuity Payment Upon Retirement	1 staff

(iii) Social Activities

(a) Family Dinner

- Family Dinner is a tradition that every RECSAM staff looks forward to where the best is feted and achievements celebrated. The DoubleTree Resort by Hilton Penang was perhaps the perfect location for RECSAM's Family Dinner this year. Staff and their family members gathered there on 19 October 2019 all dressed up according to the "Around the World" theme. Everyone came dressed to the nines and the night was made more memorable with the delectable dishes served, delightful entertainment and not forgetting, the wonderful camaraderie. The year-end dinner started at 5.30pm with registration and a cocktail reception. Upon registration, everyone had their mug shots taken in a specially decorated photo booth. Ms. Wong Lai Cheng, the Chairman of the organising committee and Dr. Suhaidah Tahir, Centre Director welcomed the staff and their family members in their opening speech. After the Director's welcoming speech, the staff was treated to an array of delectable dishes before continuing with the night's programme. Staff were treated to a variety of performances, by the slew of talent pool who were vying for the title: Champion of RECSAM's Got Talent. There was singing and dancing abound with "Kollywood Dance" from Lakka..Lakka..Lakka..Gurlz winning the Champion. They literally "killed" it with their highly entertaining routine. Thevand & Kogi aka our very own songbird was the runner-up and Gatcha Gals walked away as the second runner up with their beautiful

rendition of “Qing Fei De Yi”. The judges had a tough time judging before finally deciding to award the Champion to these talents. Interspersed with the performances, there were stage games and staff lucky draws which saw everyone walking away with a prize in hand. The event would not be complete without prizes for best dressed. Our Mr and Ms Glam for the night were Mr. Mohd. Faizal Zainoldin and Ms. Tiana Mohamad who both looked resplendent in their respective winning outfits. The pair walked away with a one-night hotel stay at DoubleTree by Hilton, Penang. Young Nadhratul Zahara (daughter of Ms. Rosnita Abdul Wahab) and Ren Hang (son of Ms. Wong Lai Cheng) impressed the judges with their outfits and each took home RM100 Popular Bookstore cash vouchers. The family of Mr. Baharulnizam Baharum won the Best Dressed Competition (Family Category) and walked away with a one-night hotel stay at DoubleTree by Hilton, Penang. Lucky draws were intermittently given away during intervals in the programme and, the Grand Prize of the Lucky Draw (Sharp 50-inch Full HD TV) was won by Mr. Mazelan Mohamed Amin from the International House. Other prizes include PAMP Suisse Gold Bar - Lady Fortuna (999.9) 5 gram, Nikon Coolpix Camera, OGAWA Mobile Seat S Track Massage Cushion, Samsung Galaxy Tab A, and HUAWEI Mediapad to name a few. Overall, it was a jubilation night to remember and will be cherished for years to come. Underlying the Centre’s success and achievements is the fact that the people of SEAMEO RECSAM come together as a team and family. We work hard and play even



RECSAM's Family Dinner at DoubleTree Resort by Hilton Penang
19 October 2019



Christmas Cheer for RECSAM Staff
15 January 2020



Chinese New Year Celebration at RECSAM
7 February 2020

harder. May this success inspire us to greater heights and accomplishment! Last but not least, kudos to the hardworking committee who had succeeded in pulling off a wonderful dinner heist!

(b) Festive Celebrations at RECSAM

The work culture and environment at RECSAM is one that promotes a healthy work-life balance. Therefore, it is the norm every year for the centre to organise various staff events and activities that are not only fun and memorable, but help to build closer camaraderie among colleagues as well. These celebrations usually go hand in hand with major festivals that go a long way in forging a spirit of unity.

- Christmas season is a jolly good time to spread warmth, love and hope. On 15 January 2020, RECSAM brought Christmas cheer to its staff in appreciation of another successful year and to celebrate the holiday season. RECSAM's Acting Centre Director, Mr. Taufek Bin Muhamad was present to grace the happy occasion along with the rest of the staff. The Acting Centre Director set the ball rolling with a brief heart-warming message. Staff were also entertained with special Christmas presentation and were invited to feast on the Christmas hi-tea offerings. There was a widespread of delectable food choices that included spaghetti and international selections and a great dessert island. It was indeed heart-warming to see the smiles and joy on the staff's faces as they dined and mingled among each other.



- During the monthly assembly on 7 February 2020, RECSAM organised a Chinese New Year celebration gathering for all staff members. All Chinese colleagues were dressed in their best costumes and dished out oranges for wealth and good fortune. There were specially ordered cookies, cakes and snacks and the favourite was certainly the symbolic and mouth-watering “love letters” or “*kuih kapit*”. Everyone had a delightful feast and it was a great festive gathering to be remembered!
- Due to the COVID-19 pandemic, mass gathering is not allowed. This year’s 3rd assembly cum Hari Raya Aidilfitri Celebration was held online via a YouTube channel on 19 June 2020. With no gatherings planned, this year’s Raya Celebration at RECSAM was an entirely new experience for all RECSAM staff. The Centre celebrated the festive season in a special way with all our Muslim colleagues in an online assembly, by inviting all staff as virtual guests. In this Raya celebration, everyone continued to practice that spirit of generosity in the new normal and individual packed traditional Raya menu such as *ketupat* and *rendang* were prepared for all staff while staying safe at their work station. The monthly online assembly cum Raya celebration session were recorded and posted on RECSAM’s YouTube channel so that everyone can share in the festive cheer. All staff were reminded to appreciate the little things in life and find innovative ways to continue the traditions and remember to put safety first.

(c) *Gotong-Royong Programme*

- RECSAM saw some physical transformation in the form of a new coat of paint and clog-free drains thanks to its collaborative *gotong-royong* effort among its staff. Some 80 RECSAM staff comprising of professional and support staff from various Divisions embarked on a *gotong-royong* to paint RECSAM's railings and staircases on 17 June 2020 and 22 June 2020, with strict SOP (standard operating procedures) such as social distancing, wearing of masks were put in place . All staff took part in the event which was also aimed at strengthening teamwork and relations amongst personnel. The first round of the *gotong-royong* activity was held on 17 June 2020, staff worked in four locations – RECSAM's International House Block A, B, C and D. The second session was held on 22 June 2020. Staff cleaned the drains, and painted railings and signs at the staircases nearby the Research & Development Office, Training Programme Office, Library Building, ICT Labs, SEAMEO Hall and RECSAM Auditorium. The event was organised by RECSAM's Administrative Division and it was the first time that the event was held and every staff played an important role.

(iv) Staff Development Programmes

The Centre is committed to the development of our human resources through emphasis on training programmes to upgrade their knowledge and skills. During this fiscal year, all staff at RECSAM were provided opportunities to further develop their knowledge and skills. This included both managerial and support staff.

- The management and professional team attended the “*Strategic Planning Workshop*” organised by the Centre at RECSAM on 21 and 22 November 2019. The workshop was facilitated by Mr. Mazlan bin Samsudin, Deputy Director of Curriculum Development Division, Ministry of Education Malaysia. During the two-day workshop, the team was given sufficient information and direction to create and implement their strategic plan for the Centre for the next fiscal year.
- RECSAM recently conducted a workshop on “Performance Appraisal and Standard Operating Procedure (*Penilaian Prestasi dan SOP (Standard Operating Procedures) Kerja*)” on 18 & 19 June 2020. The two-day workshop, facilitated by Mr. Amran Bin Mahadi from *Institut Aminuddin Baki, Cawangan Utara* (IABCU) focused on (i) performance appraisal framework and (ii) methods of presenting and formatting SOPs to improve and promote work efficiency and effectiveness among staff. Through this workshop, workshop participants explored information on managing performance, performance measurement, performance improvement, reviews as well as self & team-appraisals. The two-day workshop also included discussions that focused on establishment of SOP formats and the roles of SOPs as part of the documenting system. Workshop participants consist of management and professional staff of RECSAM.

- Ms. Hasdiana Mohd Hassan and Mr. Ahmad Fuad bin. Mohd Isa, RECSAM's UNION representatives attended a briefing on "*Amendments to the Laws of the Industrial Relations Act 1967*" organised by *Jabatan Hal Ehwal Kesatuan Sekerja Pulau Pinang* on 15 September 2019.
- Ms. Nur Masidayu Marzuki and Ms. Umni Kalsum Binti. Abd Aziz, RECSAM's UNION representatives participated in a training course on "*Using Electronic Trade System UNION Information System (e-Tuis) Department of Trade Union*" organised by *Jabatan Hal Ehwal Kesatuan Sekerja Pulau Pinang* on 18 September 2019.
- Ms. Norafizah Sharudin and Ms. Noor Suzilawati Ibrahim, RECSAM's UNION representatives joined the "*Trade UNION Management Course*" organised by *Jabatan Hal Ehwal Kesatuan Sekerja Pulau Pinang* on 24 February 2020.

d) Facilities

(i) Infrastructure, Assets and Equipment

The infrastructure and support facilities were always in constant need of change or improvements. Towards the end of this fiscal year 2019 / 2020, a number of improvements and ICT equipment purchases were made. Summary of the projects are as follows:

- Purchase of 33 (thirty-three) units of Hewlett Packard ProDesk 400 G5 Desktop Mini PC for ICT Lab 2.
- Installation of 60 (sixty) units of UNV CCTV cameras at RECSAM's building
- Purchase of four (4) units of Epson business projector for Lao DPR, Thailand 2, Malaya rooms and ICT Lab 2.
- Purchase of one (1) unit 2.8cc diesel turbo FOTON commuter van
- Installation of loop carpet at Lao PDR, Singapore and Thailand 1 rooms
- Purchase of four (4) units of 660L wheel refuse bin with anti-UV for RECSAM Cafeteria
- Installation of 25 (twenty-five) units of wall lamps at RECSAM Block B International House rooms.
- Purchase of three (3) units of Canon Pixma E4270 for Training Programme, Research & Development Divisions and International House
- Installation of 60' Panasonic ceiling fan at female's surau

ACKNOWLEDGEMENTS

SEAMEO RECSAM wishes to place on record its sincere appreciation to the Chairman and members of the Governing Board for their constant support and professional guidance. RECSAM is also greatly indebted to the Government of Malaysia for its benevolence and funding support that ensure its continued growth in the region. RECSAM also wishes to thank the following for their continued patronage of its programmes and activities:

The SEAMEO Council

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The SEAMEO Secretariat

•

The Ministers of Education of the Member Countries

•

The Associate Member Countries

•

The Donor Governments and Agencies

•

The SEAMEO Centres and Network

•

The Centre's Generous Benefactors

•

The Centre's Linkage Partners

APPENDIX 1

Management, Academic & Support Staff in fiscal year 2019 / 2020 (ending 30 June 2020)

Management and Professionals

Dr. Suhaidah Binti Tahir (left 29 June 2020)	Centre Director
Mr. Taufek Bin Muhamad (left 11 November 2019)	Deputy Director (Administration)
Dr. Mariam Binti Othman (joined 1 September 2019)	Deputy Director (Research & Development)
Dr. Warabhorn Preechaporn	Specialist (Training Programme)
Ms. Teh Kim Hong	Specialist (Training Programme)
Mr. Lee Shok Mee (left 31 January 2020)	Consultant (Training Programme)
Dr. Ng Khar Thoe	Specialist (Research & Development)
Mr. Dominador Dizon Mangao	Specialist (Research & Development)
Mr. Mohd Hazlie Bin Muhamad (left 8 September 2019)	Specialist (Research & Development)
Dr. Mohd Nor Syahrir Bin Abdullah (left 24 October 2019)	Specialist (Research & Development)
Dr. Murugan A/L Rajoo	Specialist (Research & Development)
Mr. Liman Anak Anthony	Specialist (Training Programme)
Mr. Gan Teck Hock (left 28 February 2020)	Specialist (Training Programme)
Mr. Yuji Otsuka	Specialist (Training Programme)
Mr. Hiroshi Onishi	Senior Volunteer (JICA) (Training Programme)

Ms. Rashidah Othman	Accountant
Ms. Wong Lai Cheng	Publication Manager
Mr. Mohd Faizal bin Zainoldin	ICT Manager
Mr. Baharulnizam bin Baharum	Marketing Manager
Ms. Nur Farahdina binti Omar (left 18 March 2020)	Administration Manager
Ms. Bhavani Ramasamy	Programme Officer (Training Programme)
Ms. Ong Mei Yean	Research Officer (Research & Development)
Ms. Tiana Mohamad	Programme Officer (Research & Development)

Officers & Technical Officers

Ms. Kogilavani Nadarajan	Officer (International House)
Ms. Nur Ezdiani Yusoff	Assistant Librarian
Ms. Rosnita bt Abdul Wab	Assistant Accountant
Mr. Muhammad Hanif b. Amir Hamzah	Technical Officer (Multimedia)
Ms. Norafizah binti Sharudin	Technical Officer (ICT)
Mr. Ahmad Fuad bin Mohd Isa	Technical Officer (ICT)
Ms. Hasdiana Bt Mohd Hassan	Technical Officer (ICT)
Mr. Mohamad Hilal Bin Zulkifli	Officer (Administration)

Technical Assistants

Mr. Imran Rosley Ismail (ICT)
Mr. Kok Yip Weng (Training Programme)
Ms. Oh Swee Si (Training Programme)
Mr. Mohd Yusof b. Abu (Printery) (left 15 May 2020)
Mr. Azwan Hanafi b. Abu Hashan (Maintenance)
Mr. Mohd Tahir Hj. Derani (Maintenance)
Mr. Azmi Sulaiman (Maintenance)
Mr. Muhammad Nazri Mat Disa (Maintenance)
Ms. Nur Syafiyah binti Mohd Kassim (Creative Design and Graphics)
Mr. Muhammad Nadzrul Shafiq bin Zulkefli (Creative Design and Graphics)

Administrative Assistants

Ms. Faridah Bt. Abdul Hamid (PA to Centre Director)
Ms. Noor Suzilawati Ibrahim (Finance)
Ms. Ong Lay Sim (Research & Development) (*left 31 December 2019*)
Ms. Deng Mee Cheng (Administration)
Ms. Nor Aiza Abdul Halim (Administration)
Ms. Noraini Daud (Training Programme)
Ms. Wan Norfizah Hanim (International House)
Ms. Nor Bayzura binti Mohd Suib (Marketing)
Ms. Shaneem Kamarudin (Publication)
Ms. Suhaili binti Md. Suid (Library)
Ms. Ummi Kalsum binti Abd Aziz (Library)
Ms. Nur Masidayu bt Marzuki (Finance)
Ms. Suhaila Binti Ismail (Administration)
Mr. Hasrisaufee Bin Mohd Hassan (International House)
Mr. Thevand A/L Rajeswaran (International House) (*joined 1 August 2019*)
Mr. Ruzbihan Hadi Bin Ahmad Bakhtiar (International House)
(*joined 1 August 2019 & left 31 December 2019*)
Mr. Muhammad Raziq Bin Othman Ghani (International House)
(*joined 13 January 2020*)

General Assistants

Mr. Loh Miin Tze (Driver)
Mr. Ahmad Basrah bin Awang (Driver)
Mr. Maheswaran A/L Tayang (Driver)
Mr. Azizan Abdullah (Facilities)
Ms. Renuka Selvaraju (Administration)
Ms. Latifah Mohd Koya (Library)
Mr. Roslan Akob (Printery)
Mr. Bohari Sharif (Housekeeper)
Ms. Mahabuyah Yaacob (Housekeeper)
Ms. Rabuah Hashim (Housekeeper)

Mr. Roslee Che Rose (Housekeeper)
 Ms. Siti Fatimah Abdullah (Housekeeper)
 Ms. Siti Hajar Abdul Mutalib (Housekeeper)
 Ms. Rusnah binti Ahmed (Housekeeper)
 Mr. Mazelan Mohamed Amin (Security)
 Mr. Mohamad Zaini bin Hashim (Security)
 Mr. Noorlia bt Mohamad Noor (Security)
 Mr. Ramesh Supramaniam (Security)
 Ms. Pakiavathy P. Subramaniam (Facilities)
 Mr. Rajendran Velloo (Facilities)
 Ms. Rostati Idris (Facilities)
 Mr. Amir bin Hamzah (Security)
 Mr. Muhammad Ashraf bin Akashah (Housekeeper)
 Mr. Senggol Sathanantham (Housekeeper)
 Mr. Muhammad Firdaus bin Roslan (Housekeeper)
 Ms. Norihan binti Ramli (Housekeeper)
 Mr. Aznan Bin Sudin (Gardening)

Staff who left the Centre during the course of the fiscal year:

Dr. Suhaidah Binti Tahir (16 April 2019 – 29 June 2020) Retired	Centre Director
Mr. Taufek Bin Muhamad (16 Nov 2018 – 11 Nov 2019) Returned to home service	Deputy Director (Administration)
Mr. Lee Shok Mee (10 Sept 2014 – 31 Jan 2020) Completion of Contract	Consultant (Training Programme)
Mr. Mohd Hazlie Bin Muhamad (16 Nov 2018 – 8 Sept 2019) Resigned	Specialist (Research & Development)
Dr. Mohd Nor Syahrir Bin Abdullah (16 Nov 2018 – 24 Oct 2019) Resigned	Specialist (Research & Development)

Mr. Gan Teck Hock (1 March 2019 – 28 Feb 2020) Completion of Contract	Specialist (Training Programme)
Ms. Nur Farahdina binti Omar (2 Feb 2015 – 18 March 2020) Dismissal	Administration Manager
Mr. Mohd Yusof b. Abu (1 March 1984 – 15 May 2020) Retired	Technical Assistant (Printery)
Ms. Ong Lay Sim (1 March 2019 – 31 Dec 2019) Completion of Contract	Administrative Assistant (Research & Development)
Mr. Ruzbihan Hadi Bin Ahmad Bakhtiar (1 Aug 2019 – 31 Dec 2019) Resigned	Administrative Assistant (International House)

