



S E A M E O
Regional Centre for
QITEP
IN SCIENCE



The Southeast Asian Ministers of
Education Organization (SEAMEO) Regional
Centre for Quality Improvement of
Teachers and Education Personnel (QITEP)
in Science





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Message from the Director

Dear shareholders,

It is my honour to present the Annual Report of SEAMEO QITEP in Science exhibiting our accomplishments and contributions from July 2017 to June 2018. In the said period, we continued to deliver our best efforts in empowering and enhancing the capacity of science teachers and education personnel in Southeast Asia.

Our program thrusts in this past fiscal year have been materialized into various programs and activities from annual training courses, workshop, research and seminars, include capacity buildings, in order to achieve our vision, mission, and goals. Many of our activities were the developed version and continuance of the previous one, while some others are innovation activities to address the rapid development of global education. Dissemination of Science, Technology, Engineering, and Mathematics (STEM) Education is still our highlighted programmes and collaborations and partnerships with several institutions have been done to intensify the dissemination. It was very encouraging, that the Ministry Education and Culture of Republic of Indonesia advocated STEM to be practiced and implemented in the integration of the National Curriculum 2013. This fiscal year is also marked with our biennial programme, the 2nd Ki Hajar Dewantara Award. This programme is conducted to honour and appreciate outstanding and dedicated science teachers in region.

SEAMEO QITEP in Science would not be able to come this far without the support and trust from many parties. Therefore, as my final words, I would like to give highest appreciation to all Centre staff, the members of our Governing Board, partner institutions, SEAMEO Member Countries, the Ministry of Education and Culture of the Republic of Indonesia, and stakeholders for their support and continued trust in us.



Dr. Indrawati, M.Pd.

CHAPTER 1

EXECUTIVE SUMMARY

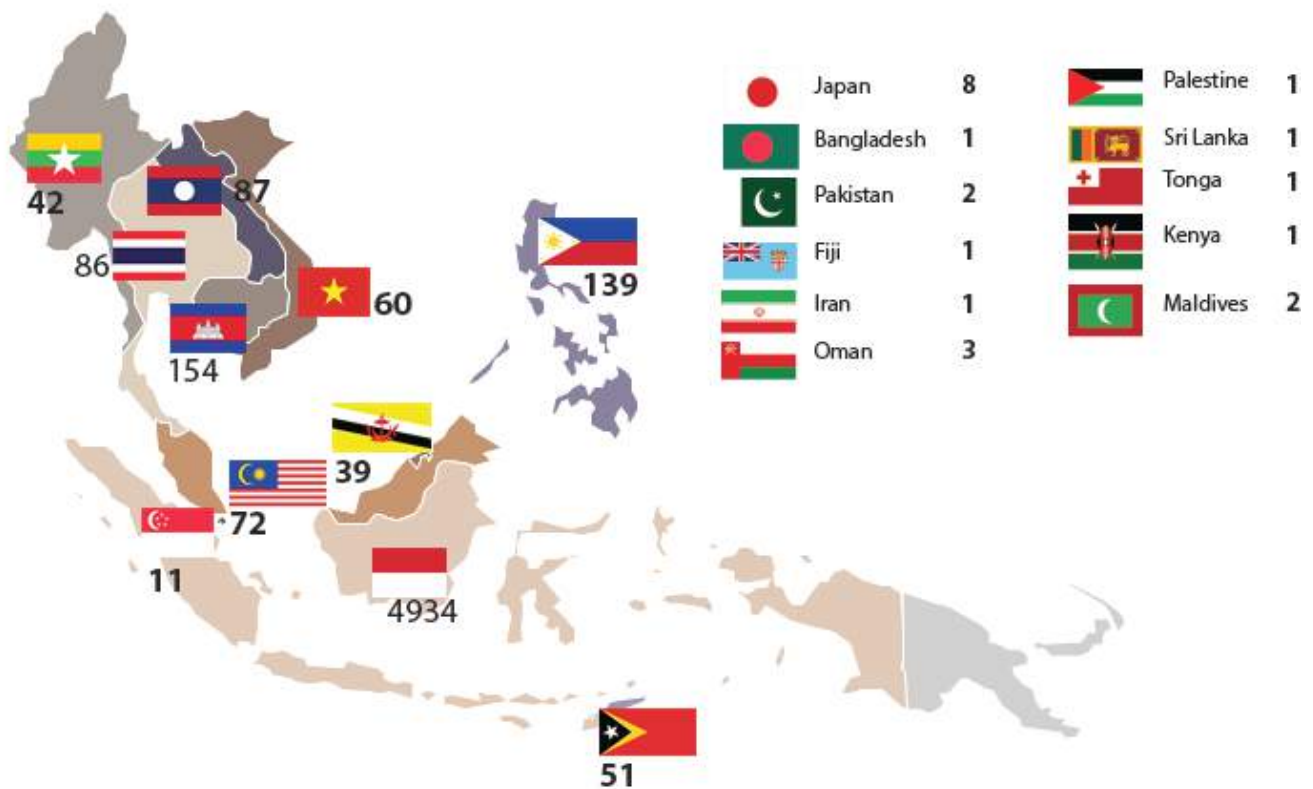


Figure 1. Training Course Participants Distribution from 2009 – June 2018

SEAMEO Regional Centre for QITEP in Science is the SEAMEO Centre focusing on improving the science competences and quality of science teachers and educational personnel throughout the Southeast Asia region. This executive summary highlights the centre progress in three Key Result Areas (KRAs) including 1) Regional Leadership, 2) Regional Visibility, and 3) Solid Resource Base during 2017 – 2018.

Trainings, workshops and seminars are the main activities of the centre. Until June 2018, all activities conducted since 2009 have attracted a total of 5833 participants from the Southeast Asia region and beyond. The Figure 1 describes the distribution of participants joining the Centre's activities.

Meanwhile, during the 2017 – 2018 period the Centre conducted three regular training courses, 30 customised/in-country trainings and workshops, and 5 online lectures.

For year 2017 – 2018, SEAMEO QITEP in Science has successfully trained 1385 participants comprised of teachers and educational personnels from various schools and institutions in SEAMEO member countries. The Chart 1 shows the alumni distributions according to their country origins for year 2017 – 2018.

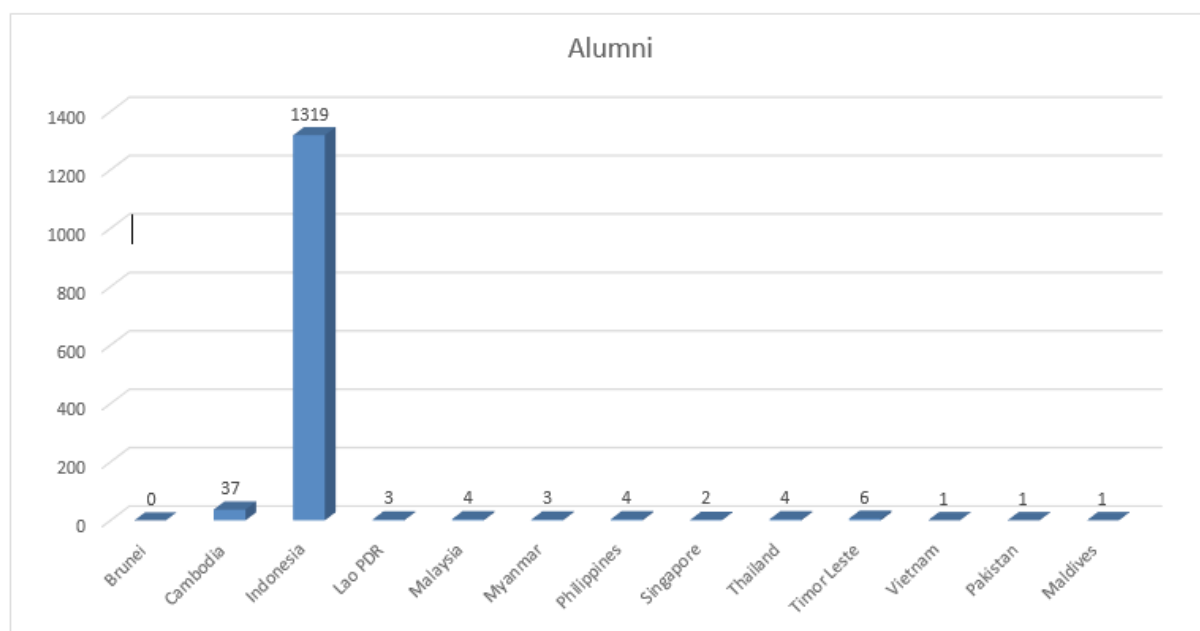


Chart 1. Participants Distribution from July 2017 – June 2018

Training courses and workshop clearly correspond to KRA 1 and KRA 2. However, some of them also correspond to the KRA 3 since in some of the training courses and workshops several Centres' staff joined the activities as participants.

In terms of Regional Visibility, there are various collaborative activities between SEAQIS and regional and international institutions such as Training on STEM Education, presenter in various International Conference and Seminars, participant in International Workshops, and actively engage in Belt and Road Teenager Maker Camp and Teacher Workshop.

In term of Solid Resource Based, the center has strengthened the organizational structure through filled in of strategic positions, followed by various staff capacity building activities that enhanced

the knowledge and skill of the centres' personnel.

In term publication, the centre has published semi-annually newsletter, a number of modules for regional training. The centre has also published the proceeding of Research Grant 2017. This proceeding comprises of 30 presented papers from the conference that was taking place in Bandung

on 7 – 8 November 2017. The centre has also produced science learning material such as a unit of STEM learning for elementary, junior high, senior high and vocational school, 12 simple science activities videos and 6 science experiment kits from daily material.

To undertake its programmes and activities during the fiscal year (under review?),

the centre augmented the funds coming from the Government of Republic Indonesia. It consisted of \$ 373.795 operating fund, \$ 3.408 capital fund, and \$ 243.303 special fund.

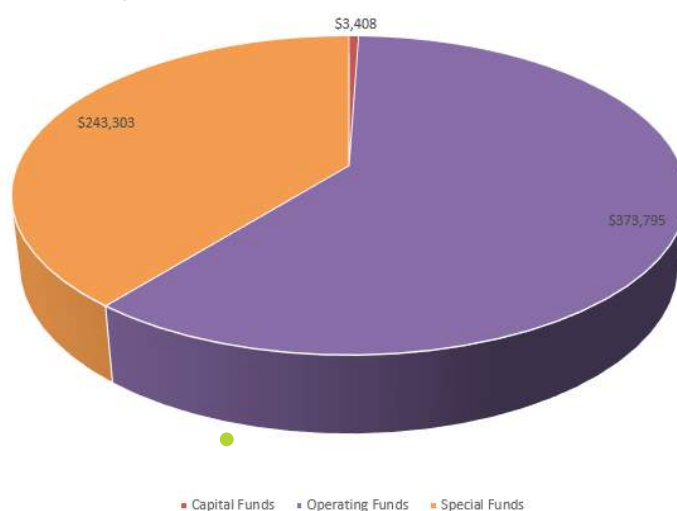


Chart 1.1. Finance Distributions FY 2017-2018



CHAPTER 2

CENTRE INFORMATION

The SEAMEO Regional Centre for QITEP in Science was established in 13 July 2009 with the approval of the 44th SEAMEO Council Conference in Phuket, Thailand. The establishment of SEAMEO QITEP in Science was the affirmation of the Government of Indonesia, through its Ministry of Education and Culture (MoEC), to actively contribute in science education development in the region.

Vision

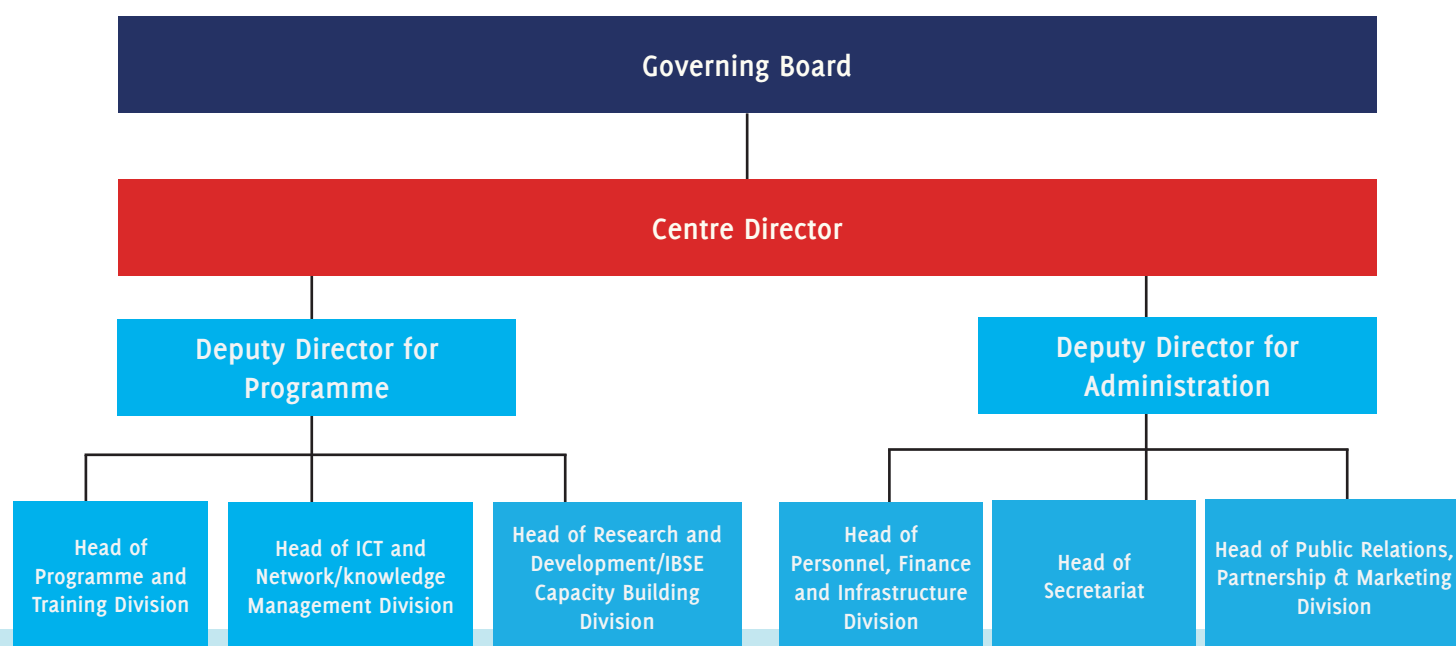
To be the centre of excellence in professional development of teachers and education personnel in science towards sustainable development in Southeast Asia.

Mission

To provide relevant and quality programs in professional development for science teachers and education personnel through capacity building, research and development, resource sharing, and collaboration.

Organisational Structure

In order to support the Centre's vision, mission and goals, an effective and efficient structure organisation is required. Thus, SEAMEO QITEP in Science will adopt the organisational structure as shown below:



SEAMEO Regional Centre Governing Board members have contributed effectively to promote regional cooperation and in fulfilling the needs of member states in education, science, and culture. Owning to their experience, expertise, and indepth knowledge in the specialized fields of the SEAMEO Regional Unit on whose Boards they serve, they are, therefore, able to contribute effectively in the planning, implementation, and assessment of programmes and activities of their respective centres and projects in accordance with the board policy decisions set by the Organization's Council of Ministers.

In carrying out the Centre's mandates and programmes and activities, the Centre Director is assisted by the Deputy Director for Programme and Deputy Director for Administration. As part of Centre's administration, the Centre secretariat shall be responsible in performing daily Centre's activities, communication and correspondence with other parties, include assisting the Centre Director, Deputies and Head of Divisions in carrying out their tasks. To ensure the quality of the programs, the Centre's six (6) Divisions shall assist the Centre Director in the planning and implementation and in all other matters pertaining to the activities of the respective Divisions of the Centre. Heads of divisions are assisted by some staff or officers and possibility experts.

To realize the vision and carry out its mission, SEAMEO QITEP in Science strongly believes in the importance of values as principles for its staff in executing their tasks. All SEAMEO QITEP in Science staff should be aware of, comprehend and apply the Centre's core values as follows.

1. Professionalism

Professionalism means that every staff performs their job corresponding to their skills and special abilities and using intellectual-based techniques and procedures.

Every staff is required to have high integrity, capabilities, discipline, qualified skills and knowledge to implement the Centre's vision and missions.



2. Togetherness

All the staff members are part of a big family that has the same vision, mission, and goals.

Each staff member should be able to support, cooperate and bring mutual benefit to each other in order to achieve the Centre's vision and mission. The staff members should put as priority the principle of togetherness.

3. Productivity

All staff are expected to give an optimum work performance through adopting an effective and efficient work system.

4. Innovativeness

The Centre's staff should possess and develop the ability to predict and respond to the changes, and generate new ideas.

5. Lifelong learning

Centre's staff should possess the eagerness to improve and enhance their knowledge, skills, and attitude throughout their life.

To develop and implement effective inquiry-based science education training programs and other learning events;

To strengthen national and international networking in science education;

To conduct research-based innovations and resource-sharing in science education; and;

To improve competence and management capabilities of SEAQIS human resources for effective and efficient service delivery



Niche Area

SEAMEO QITEP in Science has decided that Inquiry-Based Science Education (IBSE) development will be the ultimate goal and focus for the Centre's second Five Year Development Plan (FYDP).

IBSE shall also be the Centre's niche and thus the Centre's major philosophy to realize its vision and to be the Centre of excellence in professional development of teachers and education personnel in science towards sustainable development in Southeast Asia. Thus, IBSE will become the basic philosophy and major strategy of all training courses and activities to be conducted by SEAMEO QITEP in Science within the scope of professional teacher improvement. The Centre believes that producing quality science teachers in the region will contribute to development and growth in the region and thus contribute in the achievement of ASEAN Community.

Programme Thrusts

In carrying out its mandate and to achieve the goals to become a Centre of excellence in IBSE, the Centre has identified the following three (3) Program Thrusts for its 2nd FYDP:

- 1 Professional Teacher Development** which will look into the total development of teachers in terms of knowledge, skill and attitude. It is considered as a critical part in education development because of its relationship to learning outcome and student achievement. Development of teacher professionalism requires a sustained policy and funding, carried out over time, and should be aligned with standard and assessment that are integrated with teacher goals.
- 2 Learning Resources Development** which will identify best practices and gaps in IBSE with the intention of providing the appropriate learning resources needed for effective teaching and learning. Provision of appropriate learning resources should be integrated, logical and ongoing experiences, content of prolonged facets of classroom instruction and backed up by the best research evidences
- 3 Professional Learning Communities** which will focus on enhancing the awareness and understanding of IBSE among education decision makers, education personnel and the general public towards its application and promoting collaboration among them.

All activities of the Centre shall be aligned along these 3 Program Thrusts to achieve its vision, mission, and goals and, at the same time, maximize its resources and potentials.

In addition, the Program Thrusts of the Centre shall be considered as pillars in science education development.

Governing Board

The SEAMEO Centre for QITEP in Science Governing Board (GB) is the Centre's highest policy-making body. The GB is composed of representatives from each SEAMEO Member Country who are nominated by their respective Ministers/Secretaries of Education and appointed by the SEAMEO Council President. The GB is responsible for operational policies, strategic planning, annual evaluation, and review of the Centre's programmes and budget. The SEAMEO Secretariat (SEAMES) Director and the Director of the Centre serve as ex-officio members of the Board. SEAMEO Regional Centre for QITEP in Science Governing Board Members:



Mrs Sarimah Abu Bakar

Specialist Inspector in Science Education
Ministry of Education
BRUNEI DARUSSALAM



Mr Ngor Penglong

Director
Teacher Training Department, Ministry of
Education, Youth and Sport

CAMBODIA



Dr Indrawati

Head of Programme and Information
Division
Centre for Development and Empowerment
of Teachers and Education Personnel (CDE-
TEP) in Science

INDONESIA



Mr Keth Phanlack

Deputy Director General
Department of Teacher Training, Ministry of
Education and Sports

LAO PDR



Dr Habibah Abdul Rahim

Director
Education Planning and Research Division,
Ministry of Education
MALAYSIA



Dr Ni Ni Than

Professor
Department of Chemistry
MYANMAR



Lorna D Dino

Undersecretary
Curriculum and Instruction, Depart-
ment of Education
PHILIPPINES



Mr Lau Chor Yam

Master Teacher (Chemistry)
Standards and Research, Academy of Sin-
gapore Teachers
Ministry of Education

REPUBLIC OF SINGAPORE



Dr. Pornpun Waitayangkoon

President
Institute for the Promotion of Teaching
Science and Technology

THAILAND



Ms Veronica Correia Moreira

Member
Centre for Mathematics and Science under the
UNESCO, NATCOM, Ministry of Education

TIMOR LESTE



Prof. Dr. Pham Quang Trung

President
National Academy of Education Ma-
nagement

VIETNAM

CHAPTER 3

KEY RESULT AREA

Introduction

The highlights of the annual report for FY 2017/2018 will be presented according to three Key Result Areas (KRAs), namely, 1) Regional Leadership, 2) Regional Visibility and 3) Solid Resource Base. The sub-areas under each KRA are as follows:

KRA 1: Regional Leadership

- 1.1 Research and Development
- 1.2 Innovation Programme
- 1.3 Capacity Building
- 1.4 Recognition and Benchmarking

KRA 2: Regional Visibility

- 2.1 Strengthening linkages with inter-center, national, regional, and international institutions
- 2.2 The increase means for stakeholders to access SEAMEO programmes

KRA 3: Solid Resource Base

- 3.1 Financial Viability
- 3.2 Management Efficiency
- 3.3 Human Resource Management
- 3.4 Facilities

The following are the achievements of the activities during the 2017/2018 period based on KRA.

Centre Activities in Fiscal Year 2017/2018

No	Activities	Time	Venue	KRA-Sub KRA
Training (Regional, Customised and In Country)				
1	The Training Course on Environmental Edu- cation for Sustainable Development	1 – 10 August 2017	Marbella Suites Hotel, Bandung, Indonesia	KRA 1.3 KRA 2.1 KRA 3.3
2	The Training Course on Earth and Space Science	1 – 10 August 2017	Marbella Suites Hotel, Bandung, Indonesia	
3	The Training Course on Science Classroom Supervision	1 – 10 August 2017	Marbella Suites Hotel, Bandung, Indonesia	
4	Training on STELR- STEM Education for Asia Pacific Region	20 – 24 November 2017	Hotel Atlantic City, Bandung, Indonesia	
5	Training on Subject Knowledge Enrichment in Physics	5 – 8 December 2017	Prime Park Hotel, Bandung, Indonesia	
6	Training on Subject Knowledge Enrichment in Chemistry	5 – 8 December 2017	Prime Park Hotel, Bandung, Indonesia	
7	Training on Subject Knowledge Enrichment in Biology	5 – 8 December 2017	Prime Park Hotel, Bandung, Indonesia	
8	Training on STEM Education Integration in 2013 National Curriculum Implementation for Elementary School Teacher, Secondary Teacher, and Senior High School Teacher	14 – 19 May 2018	SEAMEO QITEP in Science, Bandung, Indonesia	
Workshops on Curriculum and Material Development				
9	Workshop on Development of Learning Models: Inquiry, STEM and HOTS	5 – 7 July 2017	SEAMEO QITEP in Science, Bandung Indonesia	KRA 1.1 KRA 1.2 KRA 1.3 KRA 2.2
10	Workshop on Preparation of SDC Online Material	24 – 25 August 2017	SEAMEO QITEP in Science, Bandung Indonesia	
11	Workshop on Programme Evaluation	12 December 2017	Horrison Hotel, Bandung, Indonesia	
12	Training on Rasch Model Application for Educational Assessment	12 – 14 December 2017	Horrison Hotel, Bandung, Indonesia	
13	Workshop on Development of STEM Learn- ing Model	14 – 15 February 2018	SEAMEO QITEP in Science, Bandung Indonesia	
14	Workshop on Programme Development 2018	7 – 9 March 2018	SEAMEO QITEP in Science, Bandung, Indonesia	
15	Workshop on Development of 3rd FYDP 2020/2021 – 2024/2025	27 – 29 March 2018	SEAMEO QITEP in Science, Bandung, Indonesia	
16	Wokshop on Programme Planning 2019	5 – 7 April 2018	SEAMEO QITEP in Science, Bandung, Indonesia	
Staff Capacity Building				
17	SEAQIS Octa Fiesta Anniversary Fun Event - Mini Online Quizzes and Goes to School	20 July 2017	SMP 3 Sindangkerta, Bandung, Indonesia	KRA 1.3 KRA 1.4 KRA 3.3
18	In House Training on Curriculum 2013	31 July – 1 Augustus 2017	SEAMEO QITEP in Science, Bandung Indonesia	
19	Workshop on Utilization of TIMSS Data	27 – 30 September 2017	Hotel Bumi Wiyata, Depok, Indonesia	
20	Workshop on Online Material Finalisation	12 – 13 October 2017	SEAMEO QITEP in Science, Bandung, Indonesia	

No	Activities	Time	Venue	KRA-Sub KRA
21	Workshop e-office in Ministry of Education and Culture	24 October 2017	SEAMOLEC, Jakarta, Indonesia	
22	Training on Procurement of Goods and Services	25 October 2017	Grand Savero Hotel, Bogor, Indonesia	
23	Training on Contract Arrangement, Specification, and Self-estimated Price	22 – 23 November 2017	Labuan Bajo, Flores, NTT, Indonesia	
24	Development on Human Resources in Having a Foreigners Visit.	22 – 24 November 2017	Hotel Santika, Tangerang Selatan, Indonesia	
25	Training Workshop on Computer Science Education	23 – 27 November 2017	Corus Hotel, Kuala Lumpur, Malaysia	
26	Belt and Road Teenager Maker Camp and Teacher Workshop	16 – 22 December 2017	China	
27	Policy Forum on Adult Learning and Education: Promises, Problems, and Possibilities of Online Learning	18 – 20 December 2017	Haris Hotel, Bandung Indonesia	
28	Training on STEM Education	12 – 15 March 2018	SEAMEO QITEP in Science, Bandung, Indonesia	
29	Workshop on the Development of of Basic Cinematography	15 – 20 March 2018	Pusdiklat, Jakarta, Indonesia	
30	SEAMEO RECSAM Regular Course of Fiscal Year 2017/2018	2 – 27 April 2018	Penang, Malaysia	
31	Workshop on Identification of Digital Simulator and Virtual Lab Content Model Adjustment	16 – 17 April 2018	Grandia Hotel, Bandung, Indonesia	
32	Training on Regression Analysis STATA	2 – 5 May 2018	UNPAD, Bandung, Indonesia	
33	Knowledge Sharing Day	July – now	SEAMEO QITEP in Science, Bandung, Indonesia	
Collaboration and Networking				
34	Training on STEM Education and HOTS for Elementary School Teachers in Yogyakarta	10 – 14 July 2017	P4TK Seni Budaya, Yogyakarta, Indonesia	
35	Staff participation as a speaker at the Annual Seminar on Innovation and Learning of Science (SNIPS) 2016 leads by the Faculty of Mathematics and Science of Institut Teknologi Bandung	26 – 27 July 2017	ITB, Bandung, Indonesia	
36	Workshop on Development of Higher Order Thinking Skills (HOTS) based on ASEAN Economic Community	11 – 12 August 2017	SEAMEO QITEP in Science	
37	Training on Management Based School in Samosir	20 – 26 August 2017	Samosir	
38	Training on Junior High School Science Teachers’ Competences Improvement	21 – 25 August 2017	Aceh Jaya, Aceh, Indonesia	
39	Inter Center Collaboration Meeting 2017	29 – 30 August 2017 20 December 2017	SEAMEO QITEP in Language, Depok, Indonesia, Hotel Swiss Bell, Jakarta, Indonesia	
40	SEAQIS In Country Training: Elementary School Science Teacher and Supervisor Competence Enhancement in Aceh Jaya Regency	4 – 8 September 2017	Aceh Jaya, Aceh, Indonesia	

No	Activities	Time	Venue	KRA-Sub KRA
41	Training for Head of Science Laboratory Candidates in Gowa Regency	25 – 28 September 2017	SMPN 4 Sungguminasa, Gowa, Indonesia	KRA 1.1 KRA 1.3 KRA 1.4 KRA 2.1 KRA 2.2 KRA 3.3
42	International Workshop in Bali: Celebrating Creative and Strategic Partnership for SDG4	4 – 6 October 2017	Ramada Bintang Bali Resort, Bali, Indonesia	
43	SEAQIS In Service Training 2 for Head of Science Laboratory Candidates for Junior-Senior-Vocational High School in Jayapura City	9 – 13 October 2017	LPMP Provinsi Papua, Papua, Indonesia	
44	Invited Participation on Consultative Meeting as Part of Feasibility Study for The Establishment of a SEAMEO Regional Centre for STEM Education: SEAMEO STEM-ED	9 – 10 November 2017	The Tawana Bangkok Hotel, Bangkok, Thailand	
45	In Country Training on Subject Knowledge Enrichment in Physics	17 – 20 October 27 November - 1 December 2017	Morowali, Indonesia	
46	In Country Training on Inquiry Based Science Learning in Preparing STEM Education	4 – 6 December 2017	Regional Teacher Training Centre, Phnom Penh, Cambodia	
47	Workshop on The Development of Fusion of Civilisation Curriculum	11 – 15 December 2017	Kuala Lumpur, Malaysia	
48	In Country Training for Head of Science Laboratory in Kerinci Regency	14 – 18 December 2017	Hotel Arafah, Kerinci, Indonesia	
49	Training on Developing Inquiry-Based Teaching Materials for Elementary and Junior High School Teachers in Ponorogo District	19 – 21 February 2018	Ponorogo, Indonesia	
50	Inter Center Collaboration Meeting 2018	1 – 3 March 2018 3 – 5 May 2018	SEAQIM, Yogyakarta, Indonesia P4TK Bahasa, Jakarta Indonesia	
51	In Country Training for Head of Science Laboratory in Kerinci Regency (In Service – 2)	19 – 22 April 2018	Kerinci, Indonesia	
52	Training on STEM Learning and Science Laboratory Management for Physics Education Students of Ahmad Dahlan University Yogyakarta	26 – 29 April 2018	UAD, Yogyakarta, Indonesia	
53	Improvement on Teachers Capacity for the Development of Little Scientists	23 April 2018	Hotel Fave, Depok, Indonesia	
54	Training on Enhancing Science Material Understanding Based on National Exam and Science Olympiad for Junior High School Teachers in Tulungagung Regency	2 – 5 May 2018	SMPN 1 Tulungagung, Tulungagung, Indonesia	
55	The 26th Indonesia National Skill Competition	8 – 9 May 2018	Grand Legi Hotel, NTB, Indonesia	
56	Developing of Content Material for Grade 5th	25 May 2018	SD BPI, Bandung, Indonesia	
57	Training on STEM Education Integration in 2013 National Curriculum Implementation for Elementary School Teacher, Secondary Teacher, and Senior High School Teacher in Collaboration with Centre for Development and Empowerment of Teachers and Education Personnel (CDETEP) in Science, Indonesia	28 June – 4 July	Marbella Suites Hotel, Bandung	

Seminar for Research and Development				
No	Activities	Time	Venue	KRA-Sub KRA
58	Invited Speaker on The Development of Regional Competency Framework for Teacher in Southeast Asia	15 – 16 August 2017	Barkeley Hotel, Pratunam, Bangkok Thailand.	KRA 1.3 KRA 1.4 KRA 2.1 KRA 2.2
59	Seminar on Modern Science Learning - Closing Event of SEAQIS	18 August 2017	SEAMEO QITEP in Science, Bandung, Indonesia	
60	Invited Speaker on The 3rd Asian Innovation Forum (AIF)	29 Agustus 2017	Seoul, South Korea	
61	International Conference Science and Mathematics Education	17 – 21 October 2017	SEAMEO RECSAM, Penang, Malaysia	
62	Seminar on SEAQIS Research Grants 2017	7 – 8 November 2017	SEAMEO QITEP in Science, Bandung, Indonesia	
63	Annual International Seminar on Trend's in Science and Science Education 2017	13 – 15 November 2017	Hotel Grand Mercure, Medan, Indonesia	
64	International Seminar: Fostering Young Creative Talents through Integrative Thinking	18 December 2017	Senayan, Jakarta, Indonesia	
65	Seminar on Learning Model: Inquiry, STEM and HOTS	15 December 2017	Aula Gedung PGRI Jawa Barat, Indonesia	
66	International Seminar of Online Open Learning	18 – 20 December 2017	Haris Hotel, Bandung, Indonesia	
67	International Letter to Participate in the External Evaluation Report Meeting on the KOICA Timor-Leste Quality Education Project: 3rd Cycle Math and Science Curriculum Revision	22 December 2017	The Atlet Century Park Hotel, Jakarta, Indonesia	
68	Invited Speaker on International Seminar-Workshop on Science Education	26 – 28 January 2018 23 – 25 February 2018 19 – 21 April 2018	Benitez Hall, Boguio City, Philipines	
69	Invited Speaker on International Science Education	6 – 12 February 2018	Tsukuba University, Japan	
70	The 8th Annual Basic Science International Conference 2018	6 – 7 March 2018	Ijen Suites Hotel, Malang, Indonesia	
71	International Forum on Science Education and Workshop on Fusion of OBOR Civilizations School Curriculum Design	8 – 12 April 2018	Auditorium of Higher Education Commission, Islamabad, Pakistan	
72	International Conference on School Gardens and Training of Trainers on Scaling Up the School-Plus-Home Gardens Model in Southeast Asia	15 – 23 April 2018	SEARCA, Phillipines	
73	International Conference on Climate Change Education	6 – 9 May 2018	Corus Hotel, Kuala Lumpur, Malaysia	
Other				
74	The 49th SEAMEO Council Conference and Center Director Meeting	24 – 28 July 2017	Hotel Mulia, Jakarta, Indonesia	KRA 1.4 KRA 2.1
75	8th Governing Board Meeting	25 to 29 September 2017	Makasar, South Sulawesi, Indonesia	
76	The 40th SEAMEO High Official Meeting	29 to 30 November 2017	Bangkok, Thailand	



Highlighted

ACTIVITIES

in Fiscal Year 2017/2018

S E A M E O
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REGULAR TRAINING

Training Course on Earth and Space Science



From 1-10 August 2017, there were 30 chosen teachers and education personnel coming to Marbella Suites Hotel, Bandung, Indonesia to attend the Training Course on Earth and Space Science. The participants coming from 8 countries in Southeast Asia were so excited to enhance their knowledge in earth and space science field. The countries that sent their teachers and education personnel were Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand, Timor Leste and of course Indonesia.

In this training course, the participants got new knowledge about earth and space science that could be implemented in their teaching. The resource persons in this training course were Prof Triyanta as the Director of SEAQIS, Prof Ismunandar, former Director of SEAQIS, as the Education and Cultural Attaché of the Embassy of Indonesia in Washington DC, Prof Rizaldi Boer as the Executive Director of CCROM SEAP of Bogor Agricultural University, Prof Bambang Hidayat and other outstanding speakers from Bandung Institute of Technology and Indonesia University of Education.

Besides learning in the class, the participants also visited the Geology Museum and the Bosscha Observatory. In the Geology Museum, they observed the historical view of Indonesia, fossils, rocks, as well as simulated an earthquake. Then in their visit to the oldest observatory in Indonesia, the Bosscha Observatory, they got the chance not only to look around but also to get into the observatory. There, the observatory staff explained how to observe stars using the famous double telescope in Indonesia, the Zeiss telescope.

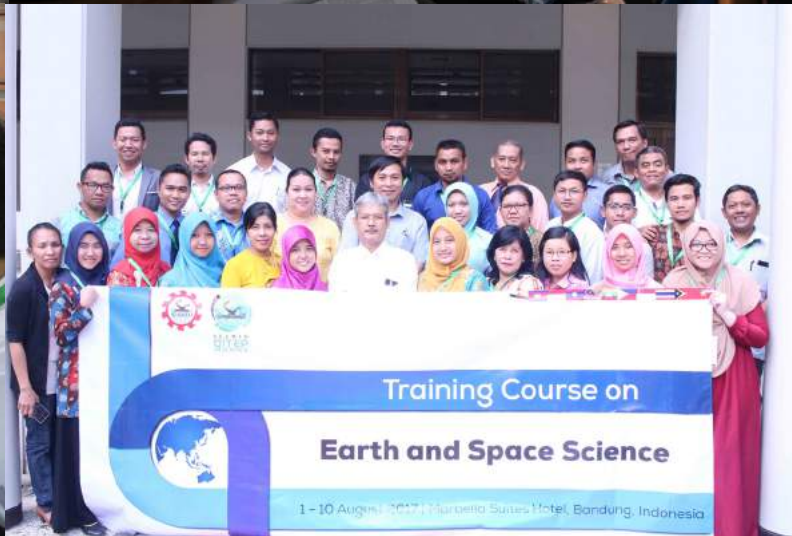
Moreover, they visited the earth and space science laboratory at Indonesia University of Educa-

tion too. In the laboratory, they were taught how to use earth and space science instruments. Interestingly, at night they also had the opportunity to observe sky objects using telescopes. They were also presented by the diversity of culture of Indonesia through the cultural and art performance at the Saung Angklung Mang Udjo.

Finally before they departed to their homelands, they arranged a cultural night. They performed traditional cultures of each country and invited other participants to join their performances. The participants were also delighted as they all got a gift

from other participants. The night was full of joy and everyone would miss the moment.

The participant from Myanmar, Ms Yu Mon Thaw, said that it was a great opportunity for her to join such valuable training. She was also grateful to meet new friends from other countries especially the ones from Indonesia that made Indonesia felt like new home for her. She could not be more pleased since after attending this training course she would be promoted to principal.





Training Course on Environmental Education for Sustainable Development



Education for Sustainable Development (ESD) empowers people to change the way they think and work towards a sustainable future. ESD allows individuals to explore environmental issues, increases public awareness, engage in problem solving, and take action to improve the environment. As the result, it provides the public with the necessary skills to make informed decisions and take responsible action.

In line with the international interest in the need for education for sustainable development (ESD) at all levels. Since 2009, SEAQIS has been

developing a training course in the promotion of environmental education. This programme helps to empower science teachers and education personnel to integrate environmental education issues in schools and in community. More importantly, one of the goals of this training course is to improve the quality of science teaching and learning in school with respect to environment, ecosystem conservation, and their support to sustainable development.

To continue this advocacy effort, this year, SEAQIS held the training Course on Environmental Education for Sustainable Development at Marbella Suites Hotel, Bandung, Indonesia lasting for 10 days from 1 to 10 August 2017. It was attended by 30 teachers and education personnel from the SEAMEO Member Countries. There were six participants each came from Cambodia, Lao PDR, Malaysia, Myanmar, Thailand, Vietnam, two from Timor Leste, and 22 from Indonesia.

To enlighten them, SEAQIS also invited nine experts, namely, Prof Oekan S Abdoellah and Dr Parikesit from Institute of Ecology (Padjajaran University), Prof Rizaldi Boer from the Centre for Climate Risk and Opportunity Management in Southeast Asia Pasific (CCROM – SEAP), Prof Shahbaz Khan from the UNESCO Regional Science Bureau for Asia and the Pacific, Prof Ismunandar from The Indonesian Education and Cultural Section of Embassy of Indonesia in Washington DC, Dr Yusuf Hilmi Adisendjaja and Dr Ana Ratna Wulan from Indonesia University of Education, Dr Dwi Nastiti Iswarawanti from University of Indonesia, and Susi Herawati SE MSc from the Ministry of Environment and Forestry of Indonesia.

As the session continued, the speakers encouraged the participants to impart their knowledge to the students by giving activities on Learning and skill Assessment on Environmental Science and Sustainable Development Perspective through introduction of STEM (Science, Technology, Engineering and Mathematic) Education, Assessment method in EESD, designing learning scenario, and peer teaching session related to Environmental Education for Sustainable Development topic.

In addition, the participants were enriched by the material the World Wildlife Fund (WWF) team conveyed related to the wilderness preservation and the reduction of humanity's footprint on the environment especially about the biodiversity of REEPS (Rare, Endangered, Endemic, & Protected Species) in Southeast Asia region.

At the same time, Panda Mobile of WWf was opened to selected elementary students at PPPTK IPA Bandung and SD Widuri (Baleendah, Bandung Regency) from 8-9 August 2017 as part of the advocacy to children.

The Participants also had the out of the classroom activities like visiting the Saung Angklung Mang Udjo, Climate Village Pulosari at Pangalengan Subdistrict, as well as SMK Negeri 1 Bandung which has won the best implement the sustainable environmental systems on 2016 SEAMEO-Japan Education for Sustainable Development (ESD) Award under the theme 'Saving Energy'.

At the end of the training, they shared their talents in a cultural exchange programme with zest.

TRAINING COURSE ON SCIENCE CLASSROOM SUPERVISION

Every year, SEAQIS holds a regional training course called the Training Course on Science Classroom Supervision intended for school superintendents and supervisors. This year, the training was convened from 1 – 10 August 2017 at the Marbella Suites and Hotel Bandung. It was attended by 30 participants with 22 participants from Indonesia, 2 from Timor Leste and the rest from Cambodia, Lao PDR, Malaysia, Myanmar, Philippines and Thailand.



The training was started by a motivational talk from Mr Fautry Hasfiandy from Indonesian Management Institution. The next part was school management comprehension materials delivered by Prof Siswandari.

The participants were also given materials about action research by Dr Harry Firman from Indonesia University of Education, lesson study by Mr Ryo Suzuki from Benesse Corporation as well as classroom supervision strategy core materials by Prof Abdorrakhman Gintings from Universitas Islam Nusantara.

Since some of the participants did not have science educational background, they were given materials about basic science and science teaching by Ms Eka Danti and Ms Tati Setiawati from SEAQIS.

In this training, the participants also joined a field trip to Al-Irsyad International School located in Kotabaru Parahyangan to implement supervision instruments they made. By supervising a class implementing Cambridge

curriculum, they found few interesting facts; some of them were Learning Implementation Plan (RPP) made differently from the Indonesian 13th Curriculum and in one class there was two teachers or more assigned to the class adjusted to students' ability.

They also visited the famous Saung Angklung Mang Udjo. There, they were fascinated by the performance of students of the Saung Angklung Mang Udjo. The training was then closed by a cultural art performance that was a collaboration between the Science Classroom Supervision participants and participants of other coincident training courses. Hopefully through this training the participants did not only acquire knowledge that would be useful in their workplace, but also a valuable experience to share with other people.



COLLABORATION & CUSTOMIZED TRAINING

Training on STEM Education and HOTS for Elementary School Teachers in Yogyakarta





As an effort to improve scientific attitude and to enhance science learning experience for elementary school students, SEAQIS in collaboration with Teachers Working Group Cluster IV Deresan, Yogyakarta as well as Indonesian Teachers Association of DI Yogyakarta conducted a customised in-country training on STEM Education and HOTS for Elementary School Teachers in Yogyakarta. Located in the Centre for Development and Empowerment of Teachers and Education Personnel of Arts and Culture, Sleman Yogyakarta, this activity was conducted on 10-14 July 2017.

The participants who joined this activity were 80 teachers divided into 2 classes (level 1-3 and level 4-6). SEAQIS sent five representatives as resource persons in this training namely Ms Eka Danti Agustiani, Mr Lukman Nulhakim, Mr Dian Purnama, Mr Aryo Wicaksono and Ms Adella Anfidina Putri. The general aim of this training was to improve teachers' understanding of inquiry, STEM Education and HOTS. In addition, this training was also intended to give experiences for teachers in making several simple science experiments.

During the training, the participants were taught basic understanding of inquiry and STEM education. They were encouraged to learn making hands on for 7 science concepts too. Meanwhile for the STEM-practice session, they were given the task to solve several problems related to their daily life. Finally, they had a class about the use of ICT in science learning and had a practice to create a lesson plan and perform it in front of other participants through peer-teaching session.

The training was in line with SEAQIS' belief that inquiry based science learning through science experiment will be a good way to encourage students to develop their critical thinking skills, especially those using the Science, Technology, Engineering and Mathematics (STEM) models. Moreover, students' critical thinking skills can be demonstrated and developed through Higher Order Thinking Skills (HOTS) questions. Moreover, simple science experiments can be conducted in elementary school classes to increase students' curiosity, also to make them understand science easier—especially the one related to everyday life.

Science Teachers and School Supervisor Competence Enhancement in Aceh Jaya Regency

As one of realisation activities in 5 years collaboration scheme between SEAMEO QITEP in Science (SEAQIS) and the Education Office of Aceh Jaya Regency (2015-2020), the Centre conducted two training courses in Aceh Jaya Regency. Both trainings were conducted simultaneously with the training courses from SEAMEO QITEP in Language and SEAMEO QITEP in Mathematics. The first training was organised from 21 to 25 August 2017 in Calang, Aceh Jaya Regency. Participated by 69 science teachers, the goal of the training was to enhance the participant skills in implementing the National Curriculum (Kurikulum 2013) from developing the lesson plan to constructing the assessment instruments. The SEAQIS resource persons of this training were Prof Triyanta, Ms Lili Indarti M.Hum, Mr Heri Setiadi M.Si and Mr Septian Karyana M.Si.

In the following month, from 4 to 8 September 2017, the second training participated by the elementary school science teacher and school supervisor was organised. The venues were respectively in SD Negeri Calang 3 and the Education Office of Aceh Jaya Regency. The joint opening ceremony was held in the auditorium of the Education Office of Aceh Jaya Regency and attended by the Head of Elementary Education Division, Teuku Jabbar S.Pd, and the Deputy Director for Programme of SEAQIS, Dr R Indarjani representing three SEAMEO QITEP Centres' resource persons as well as all training courses' participants.

There were 80 elementary school teachers and 17 academic supervisors from totally around 190 participants of the three SEAMEO QITEP's training courses joining the course. The participants were given reinforcement in how to implement the National Curriculum, especially in the learning process and class supervision. In the last session, all the participants develop action plans, which was then compiled and reported to the Education Office of Aceh Jaya Regency. SEAQIS also encouraged the participants to keep contact in alumni forum, so the accompaniment during the implementation of the training's results can be occurred.



Training for the Candidates of Science Laboratory Managers in Gowa Regency

As an effort to continue supporting teachers' competencies improvement in Gowa Regency, the second in-service of the Training for the Head of Science Laboratory Candidates was held from 25 to 28 September 2017. The second in-service is in line with the pattern commonly implemented in this type of training that is In-On-In pattern; it consists of 40 lesson hours for the first In Service Training, 70 lesson hours for the On the Job Learning, and 40 lesson hours for the second In Service Training. The programme became the realisation of the collaboration scheme between SEAQIS and the Education Office of Gowa Regency in 2017.

The training, conducted at SMPN 4 Sungguminasa, Gowa Regency, South Sulawesi, was attended by 27 science teachers of junior high school in region 2 of Gowa Regency. The opening remarks was delivered by the Head of Personnel, Finance, and Infrastructure Division of SEAQIS, Mrs Lidiya Br Sinulingga and officially opened by Mrs Arfiani Babay as the Head of Science Teachers Forum in Gowa Regency. Mrs Lidiya Br Sinulingga, Mr Heri Setiadi, and Mr Lukman Nulhakim represented SEAQIS to be the instructors for the training.





Second In-Service Training for the Candidates of Secondary Schools' Science Laboratory Managers in Jayapura



A total of 47 science teachers of Junior-Senior-Vocational High School in Jayapura City participated in the In Service Training 2 of the Training for Head of Science Laboratory Candidates on 9 – 13 October 2017. This activity was a continuation of the In Service Training 1 in April and On the Job Learning in May – September.

Dr R Indarjani, Mr Arief Sidharta, and Ms Lintang Ratri Prastika represented SEAQIS to be facilitators in the In Service Training 2. Conducted in the auditorium of Institution for Quality Assurance of Education Papua Province, the cooperation training between the Department of Education and Culture of Jayapura City, Science Teachers Association of Jayapura City, and SEAQIS was opened by Dr Indarjani as the Deputy Director for Programme of SEAQIS. It was continued with material explanation and various group activities to use tools and materials for science experiments.

The training was closed by the Head of Education and Culture Office of Jayapura City, Mr I Wayan Mudiya, on Friday, 13 October 2017. The closing was also attended by the Head of Primary and Secondary School Division and Junior High School Principals of Jayapura City. The closing activity was even reported by local TV and mass media.

After attending this 150-hours training course (In Service Training 1 = 40 hours, On the Job Learning = 70 hours, and In Service Training 2 = 40 hours) the participants have sufficient competence as Head of Science Laboratory (personality, social, managerial, and professional) in their respective schools, so as to improve the quality of the laboratory as a means of learning science in improving the students' critical thinking, creative thinking, cooperation and communication skills through experimental science activities.





The 21st century demands many countries to prepare human resources that can compete globally. Basic knowledge in science as well as up-to-date technical know-how and innovativeness are indispensable for countries aspiring to be part of this global world. One of many ways is to teach students about science; not only to prepare them to become scientists, but also to help them understand their environment and prepare them to survive and thrive in the workforce. Specifically, science can be learnt by applying inquiry learning methods that can train students' ability to think critically and creatively.

SEAQIS as a regional constitution which has the main scope to develop Inquiry-Based Science Education (IBSE) conducted Training on STELR-STEM Education for Asia-Pacific Region as an effort to improve the professionalism of teachers in teaching science. The inquiry

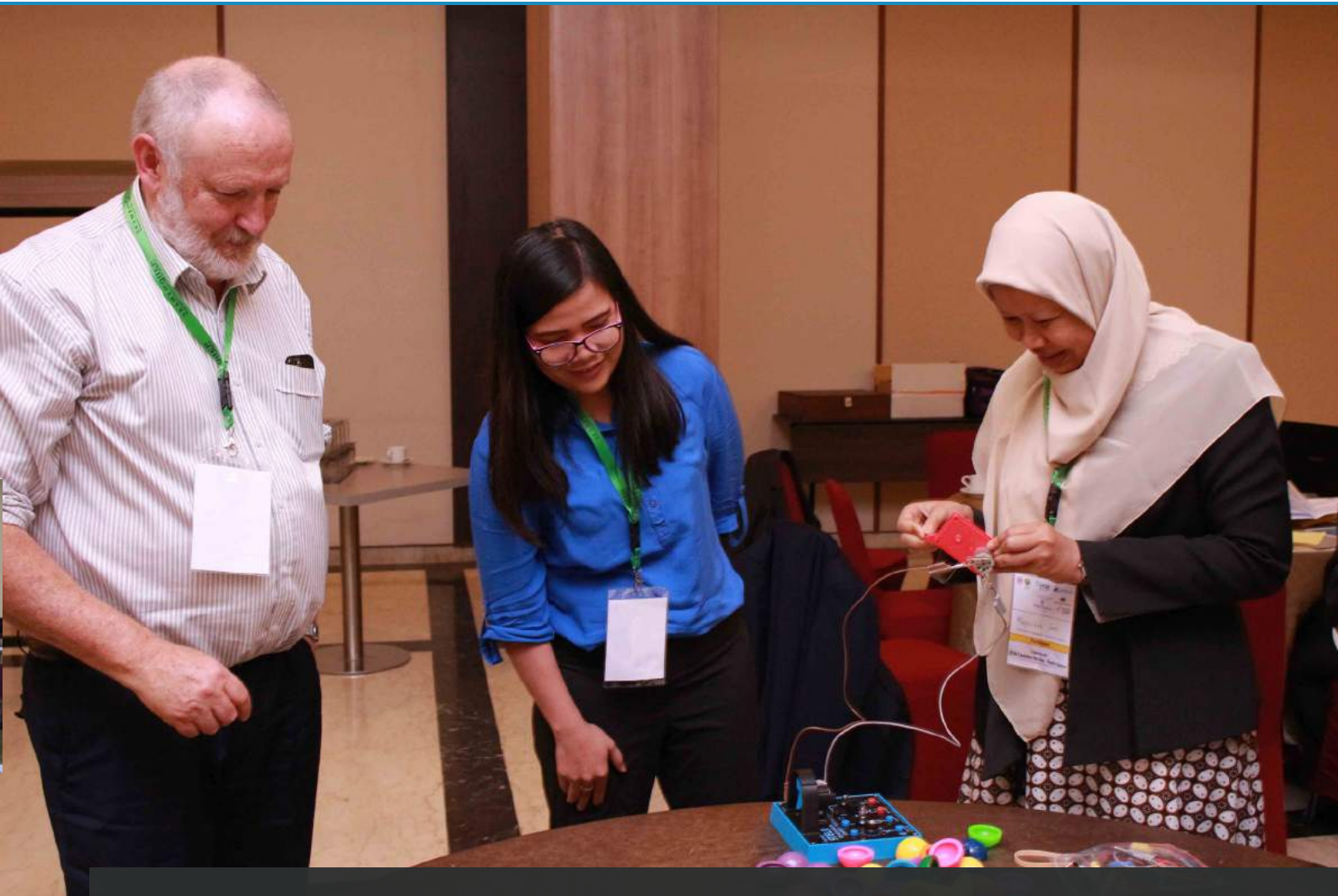
method is applied in Science, Technology, Engineering, and Mathematics (STEM) education based on Science and Technology Education Leveraging Relevance (STELR) from Australia to enhance students' interest in science and technology.

In collaboration with various institutions, that are the Australian Academy of Technology and Engineering (ATSE), Charles Darwin University (CDU), Southern Cross University (SCU), Deakin University, Australia-Indonesia Institute (AII), Australia Government Initiative, and ORICA, the training was held for five days starting from 20 – 24 November 2017 at Atlantic City Hotel, Bandung, West Java, Indonesia. The training was attended by 41 participants from various countries in Asia-Pacific, including Indonesia, Singapore, Cambodia, Thailand, Laos, Maldives, and Pakistan with five qualified facilitators



from Australia, Dr. Greg Smith from Charles Darwin University, Dr Connie Cirkony from Deakin University, Ms Pennie Stoyles and Mr Peter Pentland from the Australian Academy of Technology and Engineering, and Mrs Simone Blom from Southern Cross University.

The training was officially opened on Monday, 20 November 2017 by the Director of SEAQIS, Prof Dr Triyanta.



TRAINING ON STELR-STEM EDUCATION FOR ASIA - PACIFIC REGION

Practical activities using KIT STELR and surrounding materials became the main methods in the training, with the subjects concerned on energy conservation, climate change, sound and hearing, water conservation in the 21st century, as well as the benefits and dangers of Carbon Dioxide. Each day at the end of the session, there was conclusion of the whole activity related to the 5E learning model (Engage, Explore, Explain, Elaborate,

and Evaluate) and representative understanding.

The training was closed by Ms Elizabeth Campbell-Dorning, Education Attache from the Australian Embassy on Friday, 24 November 2017 followed by the awarding of certificates to all participants and resource persons.



In-Country Training on Inquiry-Based Science Education in Cambodia



To carry out its main tasks and functions in Southeast Asia, SEAQIS organised In-Country Training on Inquiry Based Science Education in Preparing for STEM Education in Phnom Penh, Cambodia, from 4 to 6 December 2017.

The training was held through cooperation between SEAQIS and the Ministry of Education, Youth and Sports of Cambodia. For this programme, SEAQIS was represented by Ms Lidiya Sinulingga, Ms Eka Danti Agustiani, and Ms Adella Anfidina Putri. The programme was attended by 35 people, consisting of Junior High School science teachers, science teacher trainers and Cambodia government officials related to science teacher coaching.



The materials discussed in the training were simple concepts and practices of Inquiry Based Science Education, Higher Order Thinking Skills, and the Approach of Science Technology Education Mathematics. Participants were also strengthened on contextualised science learning and assessment in IBSE using HOTS. At the end of the training, participants enthusiastically made

short Inquiry-Based Science Lesson Plan which was then implemented in the form of peer micro teaching. Based on the participants' testimonials, the training was considered to be very useful to improve their pedagogy competence and the quality of science learning in the classroom, expected to achieve the ultimate goal: enhancing students' literacy in science.

Diklat Calon Kepala Laboratorium IPA untuk Peningkatan Kompetensi Guru IPA Madrasah Kabupaten Kerinci Provinsi Jambi

14-18 Desember 2017
Kerinci, Jambi, Indonesia

Training for the Candidates Science Laboratory Managers in Kerinci Regency

To improve the quality of science education in Kerinci Regency, Jambi Province, SEAQIS cooperated with the Ministry of Religious Affairs of Kerinci Regency to provide training for Head of Science Laboratory.

The first stage of the In-Service activity, was held from 13 to 18 December 2017 in Sungai Penuh City, Jambi. The training was attended by 22 teachers who were considered as prospective heads of science laboratories. The delegates from SEAQIS for the event were Drs Arief Sidharta, M.Pd, Ms Eka Danti Agustiani, M.Si, Mr Lukman Nulhakim, M.Pd, and Mr Dian Purnama, S.Si., led by the Director of SEAQIS, Prof Dr Triyanta.

Before the training begun, Prof Triyanta and Mr Hardiman, S.Ag (Head of the Ministry of Religious Affairs of Kerinci Regency) signed the MoU underlying the cooperation of the Training for Head of Science Laboratory Candidates in Madrasah Tsanawiyah and Madrasah Aliyah of Kerinci Regency for the 1st Stage of In-Service Training, On the Job Learning until the 2nd Stage of In-Service Learning.

This training's activities were recognised by the Jambi Provincial Office of Ministry of Religious Affairs and fully supported by the Administrative Board of the Head of Madrasah Tsanawiyah and Aliyah (KKMTs and KKMA) of Kerinci Regency.

In addition to equip the trainees with a variety of compulsory materials and On the Job Learning procedures, SEAQIS also provided various examples of science practices using simple tools and materials as an alternative to strengthening the science concepts without requiring specialised laboratory condition.

All parties involved in this activity (SEAQIS, Ministry of Religious Affairs of Kerinci Regency, SEAQIS, KKMTs / KKMA as well as training participants) expected that the cooperation can expand its scope not only in the conduct of the Training for Head of Science Laboratory, but also in the conduct of various other activities related to the quality improvement of educators and education personnel in science.



Training on Developing Inquiry-Based Teaching Materials for Elementary and Junior High School Teachers in Ponorogo District

As a Government Institution with focus on the development of Inquiry-Based Science Education programme, SEAMEO QITEP in Science (SEAQIS) conducted an inquiry training in Ponorogo Regency. The title was Training on Developing Inquiry-Based Teaching Materials for Elementary and Junior High School Teachers in Ponorogo District. The training was implemented by SEAQIS in cooperation with Ponorogo District Education Office and Headmaster Association. It was attended by 45 participants consisting of 9 Elementary School Principals, 1 Principal of Junior High School, 29 Primary School Teachers, and 6 Junior High School Teachers. Mrs Dra Tati Setiawati, M M Pd, Ms Lintang Rati Prastika, S Pd, M Si, and Mr Lukman Nulhakim, M Pd was assigned as resource person from SEAQIS in the training.

The training was held for three days, from Monday-Wednesday, 19 to 21 February 2018 at Junior High School 5 Ponorogo District. It was opened officially by the Head of Education Unit Ponorogo District. The training began with the presentation of inquiry-based learning followed by inquiry learning modelling. On the second day, all of the participants conducted science experiment as the basis for the development of inquiry-based Student Worksheet. On the third day, the participants arranged Student Worksheet inquiry-based. The training went well and the enthusiasm of the participants was very high while participating in this training. The training was closed by the Chairman of Headmaster Association Ponorogo District on Wednesday, February 21st, 2018 followed by giving certificates to all participants.

Workshop on STEM Education Integration in 2013 National Curriculum



The workshop was implemented on 14 – 15 February 2018 in Bandung, West Java and attended by 50 participants from the Ministry of Education and Culture (MoEC), Universities, SEAMEO Centres, and also representatives from schools in Bandung area.

The objectives of this workshop are to formulate STEM integration framework in the implementation of Curricu-

lum 2013, model, program structure, training scheme and accompaniment pattern in implementation of training result by involving various relevant institutions, and cooperation scheme with other institution in closer school with World Business and Industrial World.

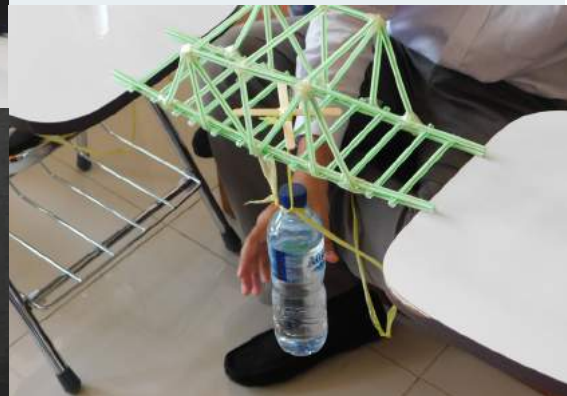
Three keynote speakers were invited in this workshop, namely Dr. Gatot Haripriowirjanto, Director of SEAMEO Secretariat, Ir. Totok Suprayitno, Ph.D., Head of Research and Development Board of the Ministry of Education and Culture, and Dr. Sediono Abdulah, Head of CDTEP in Science/ PPPPTK IPA.

The workshop was followed by Discussion Group Discussion session which was divided into three topics, Curriculum 2013 Review in accordance with the Education Level, Formulation of Learning Assessment that Reflects on 21st Century Learning; Teacher Training Scheme related to Curriculum 2013 Implementation, and Framework Formulation on Integrating STEM in the Curriculum 2013.



Training on STEM Learning and Science Laboratory Management for Physics Education Students of Ahmad Dahlan University Yogyakarta

SEAQIS as a Southeast Asian institution that plays a role in improving the competence of teachers and educational personnel in science has become known not only within the Ministry of Education and Culture of Indonesia but also in Higher Education. This is evidenced by the establishment of cooperation between SEAQIS and the Department of Physics Education, Ahmad Dahlan University (UAD) Yogyakarta in improving the competence of students' prospective teachers through education and training activities.



“Our department got an A in accreditation score of higher education, so we have to provide additional supplies to our students through various training, one of them is training from SEAQIS” said the Head of Physics Education Studies Program UAD, Mrs. Dian Atha Kesumaningrum, at the signing of MoU between SEAQIS and UAD.

Conducted in Campus 4 UAD, Yogyakarta, Indonesia on 26-27 April 2018, this training themed STEM Learning and Science Laboratory Management and attended by 85 participants who are undergraduate and post-graduated of Physics Education students.

Mr. Reza Setiawan, M.T., Mr. Yudi Yanuar, M.T., Ms. Lintang Ratri Prastika, M.Si., and Mr. Yamin Winduono, M.Pd. from SEAQIS was assigned to be a facilitator in the training.

Through the training of STEM Learning and Management of Science Laboratory, it is expected that the prospective teacher will have a picture of the current developing learning trends in trained students' 21st century skills, as well as understanding how the administration process in managing science laboratories in schools.



TRAINING ON SCIENCE SUBJECT ENRICHMENT IN TULUNGAGUNG REGENCY

SEAQIS in collaboration with Education, Youth and Sports Department of Tulungagung and Science Teacher Association of Tulungagung Regency held a Training on Enhancing Science Material Understanding Based on National Exam and Science Olympiade for Junior High School Teachers in Tulungagung Regency on 2-5 May 2018.

The opening of the training was held in junior high school of Jawaahirul Hikmah to coincide with the commemoration of National Education Day on May 2nd, 2018. The opening was done royally because of the appearance of marching band of junior high school students of Jahahirul Hikmah. The training was officially opened by Section Head of Curriculum of Secondary Education, Education, Youth and Sports Department of Tulungagung Regency.

Mr. Septian Karyana, M.Si., Mr. Heri Setiadi, M.Si., Ms. Lintang Ratri Prastika, M.Si., and Mrs. Lidiya Br Sinulingga, M.Si. from SEAQIS was assigned to be a facilitator in the training. The second day until the fifth, the training was held in Junior High School 1 Tulungagung and attended by 85 teachers majority have Biology and Physics education background. Participants are divided into two classes. In this training the participants get the discussion of Physics, Biology, and Chemistry materials based on the grid of National Examination and National Science Olympiad.

Through material in-depth training, teachers are expected to improve understanding of the concept of science that must be conveyed to the students, especially in preparing students to face the National Examination and National Science Olympiad.





Training on STEM Education Integration in 2013 National Curriculum

SEAMEO QITEP in Science (SEAQIS) conduct Training on STEM Education Integration in 2013 National Curriculum was held on 14 – 19 May 2018 at SEAMEO QITEP in Science Bandung, Indonesia.

The participants were 82 teachers from the voluntarily schools in West Java Province consist of 34 Elementary School Teacher, 33 Secondary Teacher, 17 Senior High School and 8 Vocational High School Teacher. They were divided into three class consist of Elementary school, Secondary school, and high school.

The SEAQIS academic team was assigned to be the facilitator in the technical guidance. For Elementary school class was facilitated by Ms. Elly Herliani and Mr. Yudi Yanuar, for Secondary School class was facilitated by Mr Heri Setiadi and Ms Tati setiawati and for high school class was facilitated by Mr. Reza Setiawan, Ms Poppy Kamalia Devy, Mr. Septian Karyana and Ms. Adella anfidina Putri.



This Training was officially opened by of the Director of SEAMEO QITEP in Science, Dr. Indrawati, followed by plenary session about 21st century education by Deputy Director for Programme of SEAMEO QITEP in Science, Dr. Indarjani.

Lasting for 5 days from 07.30 until 22.15, the participants received material related to the characteristics of STEM learning, STEM analysis in the 2013 curriculum, learning models with the STEM approach, and compiling the STEM-based lesson plan. During the Training process the participants also carried out various STEM activities such as making catapult prototype, water purification prototype, sail boat prototype, wireless table prototype and making energy efficient home miniature and electrical installations.

The Training activities ended with post-test and preparation of follow-up plans regarding the implementation of STEM approach in their respective schools.

Through this Training, it is expected that teachers have additional information about learning that can train 21st century students' skills and can apply it in the real teaching in school. By having 21st century skills, students in Indonesia can compete globally in the world of work in the future.



Workshop on Development of 3rd FYDP 2020/2021 - 2024/2025

To assure the quality of The Centre's training courses, the curriculum and training materials are developed and reviewed by the experts from related fields far before the training will be conducted. This workshop was held on 7 – 9 March 2018 participated by experts from Bandung Institute of Technology, Dr. rer. nat. Sparisoma Viridi, Indonesia University of Education, Dr. Asep Sudarsyah, M.Pd., Agus Fany Chandra Wijaya, M.Pd., and Dr. Yusuf Hilmi Adisendjaja, M.Sc., Puslitbang Film, Dr. Maman Wijaya, and also from PP-PAUD dan DIKMAS Jawa Barat, Dr. Muhamad Hasbi. The output from this workshop are the training syllabi and material that will be used in The Centre's training courses.



Following the first workshop conducted on 27 – 29 March 2018, in SEAMEO QITEP in Science Bandung. SEAMEO QITEP in science formulates the 3rd FYDP 2020/2021 – 2024/2025. The workshop aimed to review the 2nd Five Year Development Plan and provided valuable and important comments and inputs for draft the 3rd Five Year Development Plan. The first agenda was Synchronising SEAQIS' next FYDP

WORKSHOP ON PROGRAMME DEVELOPMENT 2018

with Secretariat General of MoEC's Strategic Plan by Dra. Veronica Enda Wulandari, M.Sc. and Strengthening the 7 SEAMEO Priority Areas in SEAQIS' Next FYDP by Dr. Gatot H. Priowirjanto.

The next agenda were Review on Centre's Achievement on the 1st 5 Year Development Plan, Identification of Central Theme for the Centre's 2nd FYDP, Review of Existing Vision-Mission and Goals in Relation to Assessment Results, Identification of Drivers of Change and Issues and Trends for the Next 5 Years, Formulation and Analysis of Uncertainty-Impact Matrix, Selection of Scenario Logics, and Drafting of Scenarios lead by Dr. Jesus C. Fernandez, Deputy Director for Programme of SEAMEO BIOTROP. He shared his experiences and assisted SEAMEO QITEP in Science in drafting the 3rd FYDP document.



RESEARCH FY 2017-2018

SEAQIS Research Dissemination in the 8th Annual Basic Science International Conference 2018



Two research topics by SEAQIS's personels were accepted and presented at The 8th Annual Basic Science International Conference 2018 organized by Brawijaya University, Malang. The first research on laboratory practical works were accepted as a poster presentation and second research on evaluation of Training on Head of Science Laboratory were persented orally. Ms. Adella Anfidina Putri, Ms. Lintang Ratri Prastika and Ms. Amalia Dwi Utami has selected as the person in charge for conducting this research with the guidance from Prof. Triyanta, Mrs. Lili Indarti and Mr. Reza Setiawan.

The first research was focused on collecting authentic data about science practice that already done by the teacher in secondary school in Aceh Jaya, Jayapura City and Gowa Regency. This study aims to gather information about science materials within the 2013 Curriculum that are difficult for teachers to introduce them by the use of experimental method, to identify constraints in doing practical works at school, and also to collect teachers' expectations for improving the quality of laboratory activities in science learning. Meanwhile, the second research was focused on SEAQIS programme evaluation and further potential improvement. In 2017, SEAMEO QITEP in Science (SEAQIS) conducted four training courses on head of school laboratory located in Siak Regency, Garut Regency, Gowa Regency, and Jayapura City. The research was conducted and aimed to find out the effectiveness of the training, the significance of the cognitive change of participants, the participants' perceptions, and the factors affecting the cognitive abilities of participants.

SEMINAR ON RESEARCH GRANTS 2017: INQUIRY-BASED SCIENCE LEARNING IN SCHOOL AS AN EFFORT TO INCREASE THE CAPACITY OF SCIENCE TEACHER AND EDUCATION PERSONNEL



The Research, Development and IBSE Capacity Building Division of SEAMEO QITEP in Science had successfully conducted The Research Grants 2017 as the Centre's annual research programme. The theme of this year's programme was Inquiry-Based Science Learning in School as an Effort to Increase the Capacity of Science Teacher and Education Personnel. From 152 proposals submitted, the Centre only provided grants for 30 proposals which had passed a rigorous selection process.

The peak of the programme was the Research Grants 2017 Seminar conducted on 7-8 November 2017 at the Atlantic City Hotel, Bandung. All of the 30 grantees presented their research reports to receive feedback from the research assessors from eligible institutions. The assessors were; Dr Indrawati, the Director of the SEAMEO QITEP in Science; Prof Triyanta, the former Director of the SEAMEO QITEP in Science; Dr Harry Firman, Mr. Sparisoma Viridi, Ph.D, lecturer of the Faculty of Science and Mathematics of Bandung Institute of Technology (ITB), and Dr Setia Utari, senior lecturers of the Faculty of Science and Mathematics Education of the Indonesia University of Education (UPI).

SEAQIS has also publish the proceeding of the Research Grants 2017 Seminar that can be accessed on the Centre website.



SEAQIS Research Dissemination in the 7th International Conference in Science and Mathematics (CoSMEd)



Continuing the previous research about developing STEM-based item test In primary school which are already presented on 7th International Conference in Science and Mathematics (CoSMEd). This conference was conducted at SEAMEO RECSAM on 13-17 November 2017 hosted by SEAMEO RECSAM in Penang, Malaysia. The organisation of the conference provides the opportunity to disseminate Centres research findings on Science, Technology, Engineering, and Mathematics (STEM) Education. One research topics by SEAQIS's personels were accepted and presented at this conference and were persented orally by Mr. Septian Karyana and Mr. Heri Setiadi. Mr. Septian Karyana and Mr. Heri Setiadi has selected as the person in charge for conducting this research with the guidance from Prof. Triyanta.

The research was focused on examined primary school students' ability in solving problems based on STEM (Science Technology Engineering and Mathematics). The students were requested to complete STEM-based items. The items tested were contextual, which means that they were integrated into daily life. The questions were reviewed and validated by experts and analyzed statistically by the use of the Rasch Model. This study based on 10 items tested on 120 students from 5 schools. The overall results of the test showed that the students' abilities in applying and integrating simple concepts were low describing also inability to think in higher order.

As the representative, Mr. Septian Karyana and Mr. Heri Setiadi were presented the research and gain a favorable response from other participants of the conference. Dissemination of the research is one of the way to improve the quality of teacher and education personel through reseach and development, also a decent way to enhance SEAQIS's visibility on public.

RESOURCES



To undertake its programmes and activities during the fiscal year under review. The Centre augmented the funds coming from the Government of Republic of Indonesia. The budget system applied in Indonesia is based on Performance-Based Budgeting and Medium Term Expenditure Framework. The diagram below show the finance distribution of SEAMEO QITEP in Science activities from July 2017 – June 2018. perceived listening consulted. It chicken oh colonel pressed excited suppose to shortly.

	IDR	USD
CAPITAL FUNDS	44,306,100	3,408
OPERATING FUNDS	4,859,334,331	373,795
SPECIAL FUNDS	3,162,933,738	243,303
TOTAL	8,066,574,169	620,506



In the beginning of 2018, the Centre has assigned new personnels to take charge at the Centre. They come from various educational backgrounds and are expected to strengthen the Centre's capacity in taking part of developing the competence of science teachers and education personnel in the region. The Centre's new personnel are Mr Gunawan Muhammad as the Research and Development and IBSE Capacity Building Division Officer, Mr Widi Wisnu Gumilar as the Infrastructure Officer, Mr Dito Prasetyo and Ms Natania Astria as the Secretary. The Centre's staff development programmes in the Fiscal Year under review are as follow:

1. SEAQIS Octa Fiesta Anniversary Fun Event - Mini Online Quizes and Goes to School
2. In House Training on National Curriculum
3. Workshop on Utilization of TIMSS Data
4. Workshop on Online Material Finalisation
5. Workshop e-office in Ministry of Education and Culture
6. Training on Procurement of Goods and Services
7. Training on Contract Arrangement, Specification, and Self-estimated Price
8. Development on Human Resources in Having a Foreigners Visit
9. Training Workshop on Computer Science Education
10. Belt and Road Teenager Maker Camp and Teacher Workshop
11. Policy Forum on Adult Learning and Education: Promise, Problems, and Possibilities of Online Learning
12. Training on STEM Education
13. Workshop on the Development of Basic Cinematography
14. SEAMEO RECSAM Regional Course of Fiscal Year 2017/2018
15. Workshop on Identification of Digital Simulator and Virtual Lab Content Model Adjustment
16. Training on Regression Analysis STATA
17. Knowlegde Sharing Day



