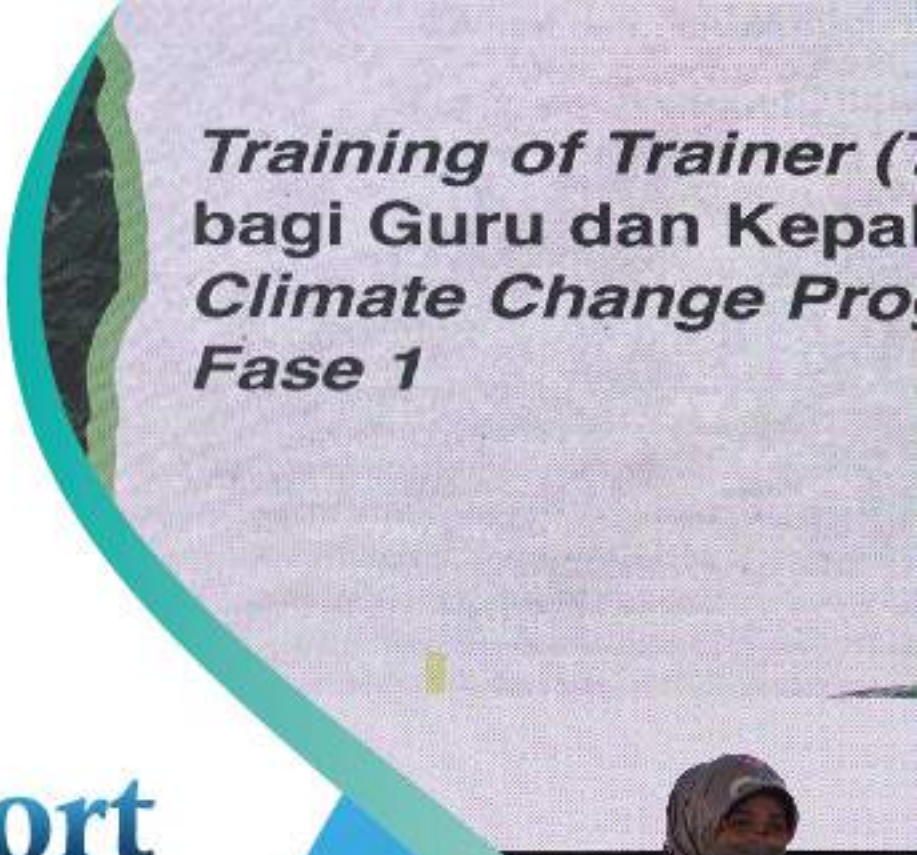


Annual Report

SEAMEO QITEP in Science

2021 - 2022

Southeast Asian Ministers of
Education Organizatiom (SEAMEO)

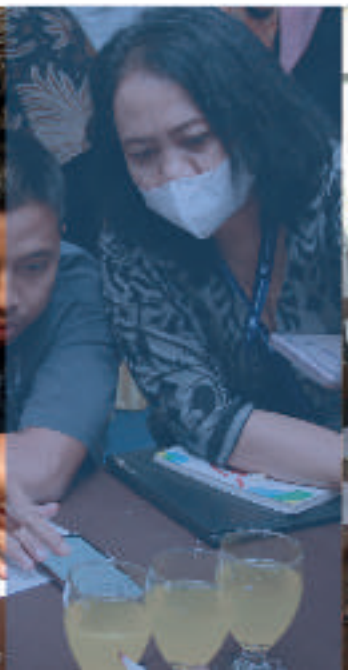
Regional Centre for Quality Improvement of Teachers and
Education Personnel (QITEP) in Science




Annual Report

SEAMEO QITEP in Science

2021 - 2022


Content

INTRODUCTION


bus Merdeka
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Collaboration with LPMP NTB

Message
from the Director

Dear stakeholder,

With pleasure, I hereby present the Annual Report of SEAMEO QITEP in Science from July 2021 to June 2022. It reports our accomplishments and contributions during the said period as we continue to strive for being the Centre of excellence in empowering and enhancing the quality of science teachers and education personnel in Southeast Asia.

In line with our vision and missions, our programmes in this fiscal year have been designed to be relevant with the current issues in education. They consist of innovative programme, research and development, capacity building for teachers and educational personnel, customized and collaborative training activities, workshops, webinars, conference, and others. Furthermore, our programmes focus on STEM education, computational thinking, and climate change education. Collaboration and partnership with relevant institutions and organisations that emphasise STEM education, computational thinking, and climate change education have been made to strengthen our content quality and dissemination.

SEAMEO QITEP in Science has been supported by many parties. Therefore, I would like to give my sincerest gratitude to all parties who have supported and trusted us. I would also like to give my highest appreciation to all Centre staffs, the members of our Governing Board, partner institutions, SEAMEO Member Countries, The Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia, and stakeholders for their support and continued trust.

CHAPTER 01


REGIONAL CENTRE
FOR
PROVEMENT OF TEACHERS
TION PERSONNEL (QITEP)
IN SCIENCE
EP in Science

Executive Summary

SEAMEO Regional Centre for QITEP in Science (SEAQIS), one of the SEAMEO Centres in Southeast Asia, has been mandated to improve the quality of science teachers and education personnel in Southeast Asian countries. This executive summary highlights the Centre's achievement in three Key Result Areas (KRAs) including 1) Regional Leadership, 2) Regional Visibility, and 3) Solid Resource Base from July 2021 to June 2022. The COVID-19 pandemic has prompted the Centre to change its approach and strategy in conducting activities. The Centre applies online and blended activities besides face-to-face strategy.

During the fiscal year 2021/2022, in terms of KRA 1. Regional Leadership, SEAQIS has accomplished one innovative programme, three research and development activities, and 47 capacity building activities. To achieve KRA 2. Regional Visibility, SEAQIS has signed 13 MoU, collaborated with nine centre's new partners, as well as published four bulletins, two magazines, and two research journals. SEAQIS also conducted collaborative training activities. Two activities fit under KRA 3 (Solid Resource Base) are financial viability and human resource development. For the fiscal year 2021/2022, SEAQIS has successfully trained 2,561 participants consisting of teachers and educational personnel from various schools and institutions within SEAMEO member countries. The Centre's achievements in 2021/2022 are summarised in Table 1.1 – 1.3

Programmes	Number of Activities	Achievements
Innovative Programme	1	1 programme
Research and Development	3	3 centre research activities 50 grantees 3 modules STEM Activities,
Capacity building	47	1,577 teachers 55 Principals and Supervisors 11 webinars

Table 1.1. KRA 1 Regional Leadership

Programmes	Achievements
Collaborative training activities	839 teachers 90 principals and supevisors
Publication	4 bulletins 2 magazine editions 229 posts on Instagram and Facebook 4556 accounts as Instagram followers, 7.800 accounts like the Centre's Facebook fanpage.
Visits	9 Institutions
SEAQIS Partners	13 MoU

Table 1.2. KRA 2. Regional Visibility

Programmes	Achievements
Workshops	6 workshops
Publication	In-house Trainings
Knowledge Sharing Day	3 Knowledge Sharing days

Table 1.3. KRA 3. Solid Resources Base

CHAPTER 02

General
Information

SEAQIS was established on 13 July 2009 through the approval of the 44th SEAMEO Council Conference in Phuket, Thailand. SEAQIS carries out mandate to improve the quality of teachers and educational personnel in science in Southeast Asia which will contribute to the development and reinforcement of educational quality in the region; conduct research and development as well as training; develop network; and provide up-to-date, accurate, and consistent information for policy makers in science education in the region.

Vision

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

Missions

The missions of the Centre are as follows.

01	Providing relevant and quality programmes in professional development for science teachers and education personnel in Southeast Asia.
02	Conducting research and development on science education, school management, public policy, and other relevant fields.
03	Broadening and strengthening network through resource and information sharing to support the Centre's visibility and leadership.
04	Providing the current, excellent, and relevant data and information in science education as reference for policy makers.
05	Improving the quality of the Centre's resource management to provide service excellence.

Core
Value


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.
Quality
Quality is the first and th
main consideration for th
Centre's staff in carrying
out their duty.
Togetherne
All the staff members
of a big family that has
vision, missions, an
Each staff member sh
able to support, coope
bring mutual benefit
other in order to ach
Centre's vision and m
The staff members sh
the principle of togeth
priority.

Core Values

The Centre's success in achieving its vision will be critically determined by the values of the Centre with standard measurement and targets with measured performance indicator. The values are criteria of the truth believed and decided as norms followed by employees of the Centre which include organisational behaviour as work culture in decision making and implementation of missions to achieve its vision. The values of the Centre are as follows.

Empowerment

All staff are expected to be able to make themselves empowered and become lifelong learners so they can empower others.

Innovativeness

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

Governing
Board Members

ASSOC PROF VONGDEUAN OSAY

LAO PDR

Deputy Director

General Department of the Teacher Training, Ministry of Education and Sports

MR ENANG AHMADI

INDONESIA

Head of Centre for Development and Empowerment of Teachers and Education Personnel in Science

MS PARIDAH BINTI HAJI BAYONG

Brunei Darussalam

Chairperson of the Subject-Based Committee (SBC) for Combined Science

Sultan Muhammad Jamalul Alam Secondary School

DR YAZID BIN ABDUL MANAP

MALAYSIA

Deputy Rector

Training Development Centre Malaysian Institute of Teacher Education

PROF NI NI THAN

MYANMAR

Professor

Department of Chemistry Yangon, University

MR LAU CHOR YAM

SINGAPORE

Master Teacher/ Physics

Pedagogical Excellence Branch Academy of Singapore Teachers

PROF SUKIT

THAILAND

President

The Institute for the Promotion of Teaching Science and Technology

MR NGOR PENLONG

CAMBODIA

Director of Teacher Training Department

Ministry of Education, Youth and Sport

PROF DR PHAM QUANG TRUNG

VIETNAM

President

National Academy of Education Management

ATTY. SALVADOR CACATIAN MALANA III

Philippines

Assistant Secretary

Procurement and Administration of DepED Phillipines

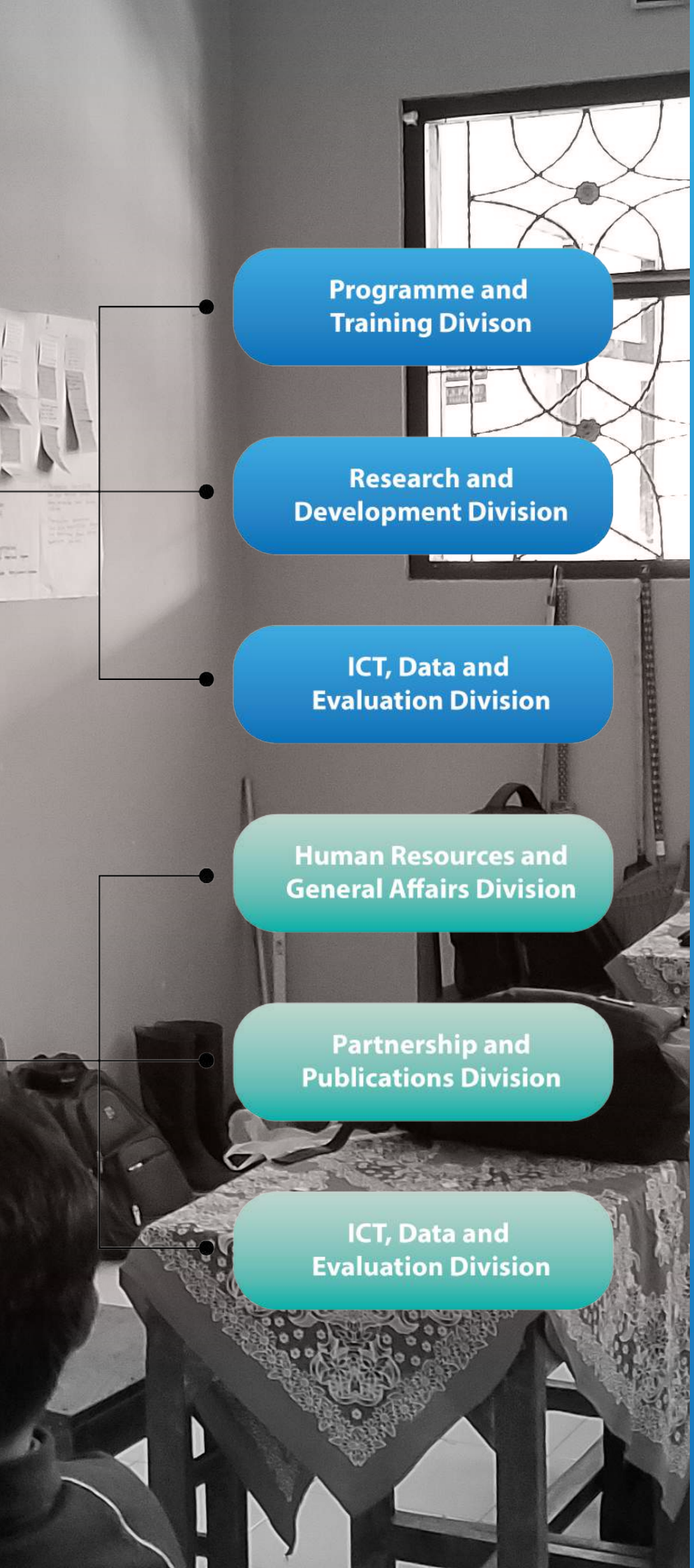
MS VERONICA MOREIRA CORREIRA VIEIRA

TIMOR-LESTE

Science Teacher Trainer

National Commission for UNESCO Timor-Leste, c/o Ministry of Education and Culture

Organizational Structure


Programme and Training Divison
Research and Development Division
ICT, Data and Evaluation Division
Human Resources and General Affairs Division
Partnership and Publications Division
ICT, Data and Evaluation Division

CHAPTER 03

A. KRA 1
Regional Leadership

SEAQIS has conducted an innovative programme, research and development, and capacity building on STEM, computational thinking, and climate change education as its efforts to improve the quality of science teachers and educational personnel in Southeast Asia region from July 2021 to June 2022. The Centre encourages the alumni of training to disseminate the knowledge and information learned from the training to other teachers in their respective countries.

Innovative Programme

Activitzies

Innovation on Southeast Asia Climate Change Education Programme (SEA-CEP)

Achievement

1 programme

Research and Development

Activities

* Centre research activities
* SEAQIS Research Grants 2021
* Teaching and learning materials development

Achievement

* 3 centre research reports
* 50 RG research reports
* 3 STEM units

Capacity Building

Activities

* Regular training activities
* Customized training activities
* Webinar
* Workshops

Achievement

* 3 training activities
* 15 training activities
* 11 Webinar Series
* 10 Workshops

1. **Programme** Innovation

a. Centre Research Activities

1. The role of prior knowledge on the implementation of STEM learning.

This study was conducted to describe the role of prior knowledge in the implementation of STEM learning. The study was expected as a reference for science teachers to develop lesson plans as well as to implement STEM learning. STEM learning focuses on integrating Science, Technology, Engineering, and Mathematics to solve contextual-based problems. This study showed that in order to find solutions, students required the application of prior knowledge to make a precise design and create a solution or a product.

2. The development and validation of students' perception, motivation, and interest in STEM learning and career.

The study was conducted to determine students' perceptions, motivation, and interest in each aspect of STEM, as well as to find the comparison between female and male students' perceptions in each aspect of STEM. The respondents in the study were junior and senior high school students from Indonesia whose teachers had attended SEAQIS' STEM training.

3. STEM learning and industry 4.0 as the media for climate change impact mitigation

This research aimed to find out the alternative solution on climate change impacts by utilising the SDGs as the global solutions. The SDGs include several bold objectives to be achieved by the year 2030 including quality education and environmental conservation. The data obtained from various resources such as recent reports, published journals, and institutional publications were analysed using literature review method. It is found that STEM learning, as the best form of quality education in SDGs, can facilitate students to develop climate literacy as well as increase the 4C skills in order to develop the innovation to overcome climate change issues and fulfil the objectives of environmental SDGs which are goals number 12, 13, 14, and 15. STEM learning can be utilised as the media to mitigate the impact of climate change by applying 4C skills to make innovation.

b. SEAQIS Research Grant 2021

In 2021, SEAQIS conducted SEAQIS Research Grants (SRG) 2021 as an effort to encourage research practice among teachers. The theme of SRG 2021 was "Science Learning Innovation through Digital Transformation". SRG 2021 participants consisted of elementary and secondary school teachers. The number of proposals received by the SRG 2021 committee were 166 proposals from three countries, which were Indonesia, Malaysia, and the Philippines. SRG 2021 only targeted to provide grants for 50 best proposals. Therefore, a rigorous selection and assessment process were needed to select 50 best proposals from 166 proposals that had been received, which was through 2021 WRS Proposal Evaluation Workshop.

c.Teaching and Learning Materials Development

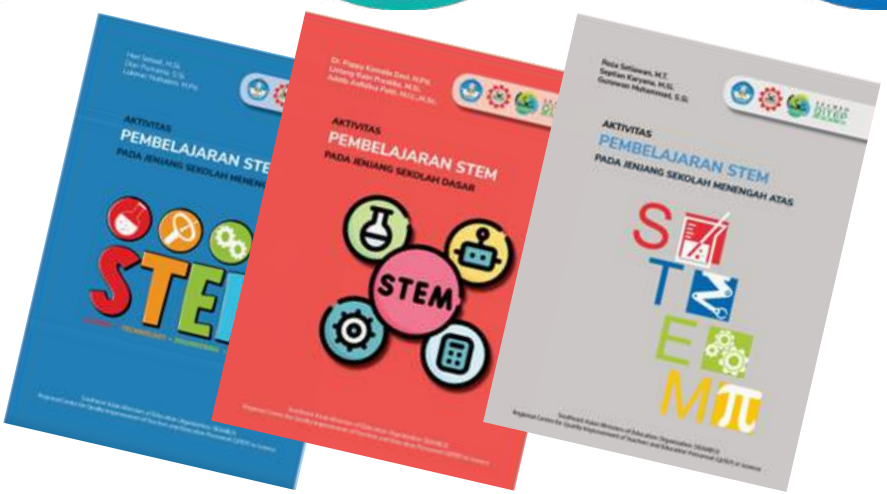
There are three STEM units which has been developed by SEAQIS. The details are as follows

Modules

1 STEM Learning Activitiesin Junior High School Level

2 STEM Learning Activitiesin Elementary School Level

3 STEM Learning Activitiesin Senior High School Level



2. Southeast Asia Climate Change Education Programme (SEA-CEP)

SEAQIS has received a mandate from the SEAMEO Priority Areas for Education, Science, and Culture 2021-2030 as covered in Science Agenda No. 3: Climate Change Adaptation. This mandate is carried out through the integration of environmental education in various school activities, lessons, and curricula to be aligned with Education for Sustainable Development.

The Southeast Asia Climate Change Education Programme (SEA-CEP) aims to promote Climate Change Education (CCE) and Environmental Education for Sustainable Development (EESD) which focuses on improving the quality of teachers in educating the young generations in the present and future regarding climate change by

providing professional development activities. In the first year of the programme, SEAQIS focused on the preparation phase to develop the model for the whole CCE and EESD programmes. This preparation phase resulted in a concept note that was developed by six working groups consisting of teachers, lecturers, and teaching staff from West Java as well as the SEAQIS academic team with the assistance of experts from several universities which are Bogor Agriculture Institute, Indonesia University, and Padjadjaran University. SEA-CEP is planned to consist of several sub-programmes:

a	training
b	community development
c	championship and partnership
d	public engagement
e	learning materials development
f	research and modelling.

The grand roadmap for SEA-CEP consists of three phases:

In Phase I, SEA-CEP is focusing on developing the model for the whole CCE and EESD programmes by sampling the Indonesian region cases.

In Phase II, SEA-CEP will scale up the model to ASEAN region.

In Phase III, SEA-CEP will propose support for ESD and CC Education in formal policy in ASEAN countries.

3. Capacity Building

1 Regular Training Activities

Activities	Achievement
EESD	Attended by 42 teachers: 38 Indonesian and 4 Philippines
ESS	Attended by 20 teachers: 17 Indonesian and 3 Philippines
SCS	Attended by 13 school principals and supervisors from Indonesia

2 Customised Training Activities

Activities	Achievement
Training on the Improvement of Primary Teachers in Mataram City	39 elementary school science teachers
Training on Integration of Computational Thinking in Science Learning	90 junior high school science teachers 39 Senior High School Physics teachers 40 Senior High School Chemistry teachers 70 Senior High School Biology teachers
In-Service 2 training on Integration of Computational Thinking in Science Learning	20 Biology teachers 20 Physics teachers 20 Chemistry teachers
In House Training 4 on the Implementation of STEM Learning in Partner School	53 teachers
Training on Science Learning Supervision for Junior High School Principals	29 principals
Online training on Research Proposal in Science Learning	60 teachers
Training on the Use of Augmented Reality (AR) in Science Learning	40 teachers
Training Course on Research Skills and Report Writing for SEAQIS Research Grantees 2021	47 teachers

3 Capacity Building Programme

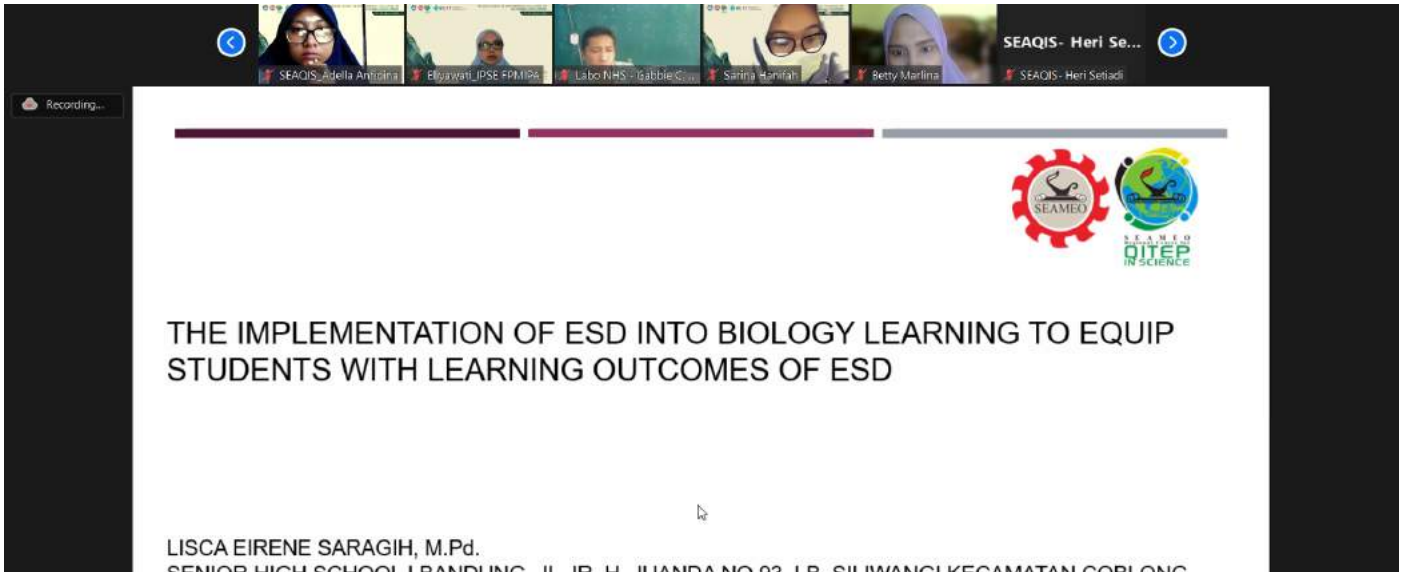
Activities	Achievement
Training on STEM Learning for Science Teachers in STEM School Community	47 teachers
Online Training on the Preparation of Science Research Proposals	21 teachers
Workshop on Finalisation of the SEA-CEP Academic Paper Development	21 participants
STEM Training and Science Applications	15 participants
Training of Trainer SEA-CEP Programme	39 teachers 13 principals
Training on STEM learning at SEAQIS at Global Islamic School, Banjarmasin	32 teachers

4 Workshops, Seminars, and Webinars

Activities	Achievement
Online Workshops on Creation of Science Learning Video	85 participants
Workshop on Southeast Asia Climate Change Education Programme (SEA-CEP) Development – Phase 1	39 participants
Workshop on SEA-CEP Development – Phase 2	36 participants
Workshop on Augmented Reality for Science Education	41 participants
Workshop on 21st Century Learning in Timor Leste	34 teachers
Workshop on Finalisation of the SEA-CEP Academic Paper Development	21 participants
Workshop on STEM Learning Implementation Results	75 teachers
Workshop on the preparation of SEA-CEP	21 participants
Webinar Series online	11 webinar series

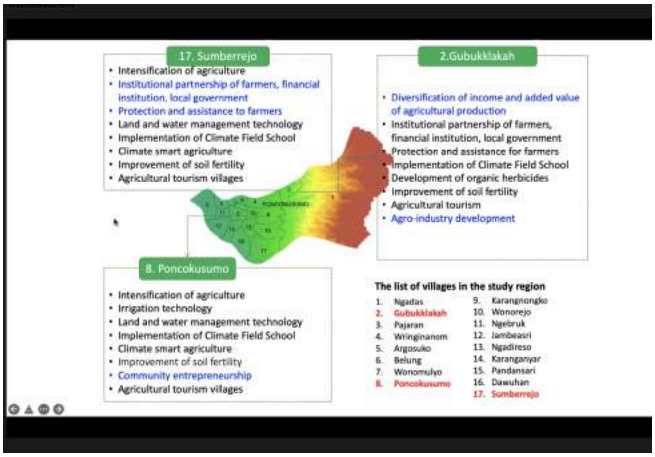
a. Regular Training Activities

In FY 2021/2022, SEAQIS conducted three regular training, which were Environmental Education for Sustainable development (EESD), Earth and Space Science (ESS), and Science Classroom Supervision (SCS).



The first regular training is **Environmental Education for Sustainable Development (EESD).** In fiscal year 2021/2022, EESD was conducted twice. A total of 22 participants attended the training in 2021 which was held from 8 to 15 November 2021 and 20 participants attended the training in 2022 which was held from 21 to 28 March 2022. A total of 60 participants took part in this regional training activity in Fiscal year 2021/2022.

Due to the pandemic situation, in 2021, the Training Course on EESD was held virtually using the Zoom meeting platform. In this training, several materials related to environmental education, especially on the topics under climate change issues were presented. Not only focusing on knowledge sharing from the expert, but the four hands-on sessions were also carried out on the topic of climate change, with a special focus on the link between climate change and ocean, climate change and agriculture, as well as climate change and biodiversity. In this training, Ms. Desi Merisa Susanti



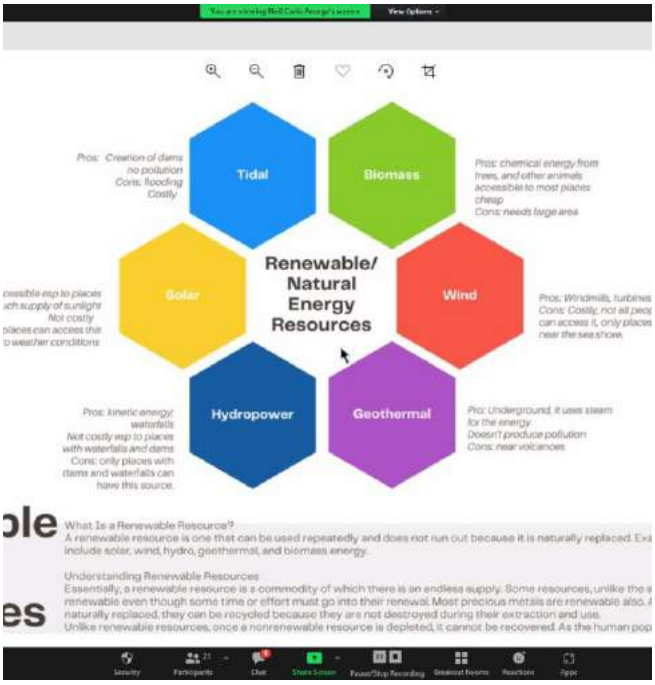
from SDN Sukarasa also shared her inspiring story regarding her best practice on environmental activities in her school that won Adiwiyata Award.

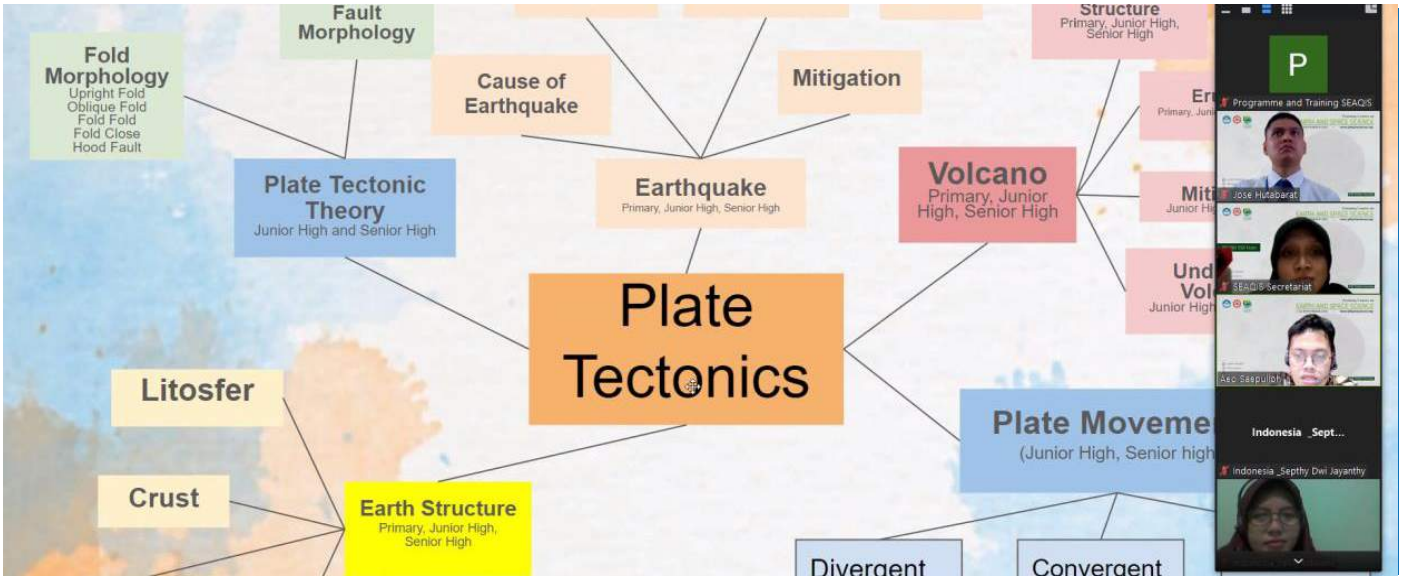
In March 2022, SEAQIS conducted training on EESD as well with the environmental and climate change as the main issue. 30 participants consisting of science teachers, teacher trainers, and education authorities from Indonesia and the Philippines attended the training. The resource persons came from various institutions such as MEXT Japan and several well-known universities in Indonesia.

Several issues about climate change and biodiversity were discussed during the training, such as: (1) Teaching on climate change and biodiversity in classroom; (2) Sustainable development: Historical perspective and state of the art; (3) Greenhouse effect, climate system, and climate change; (4) Climate change and biodiversity; (5) Trends and issues of climate change education in Japan; and (6) Introduction of E-STEM (Environmental STEM) in classroom practices.

Climate change education promotes learning about the causes and effects of climate change as well as providing a cross-curricular and multidisciplinary perspective. It develops competencies in the field of climate change mitigation and adaptation to promote climate-resilient development and reduce the vulnerability of communities facing uncertain future. Education systems can effort to promote sustainable development in teaching and create eco-friendly institutions.

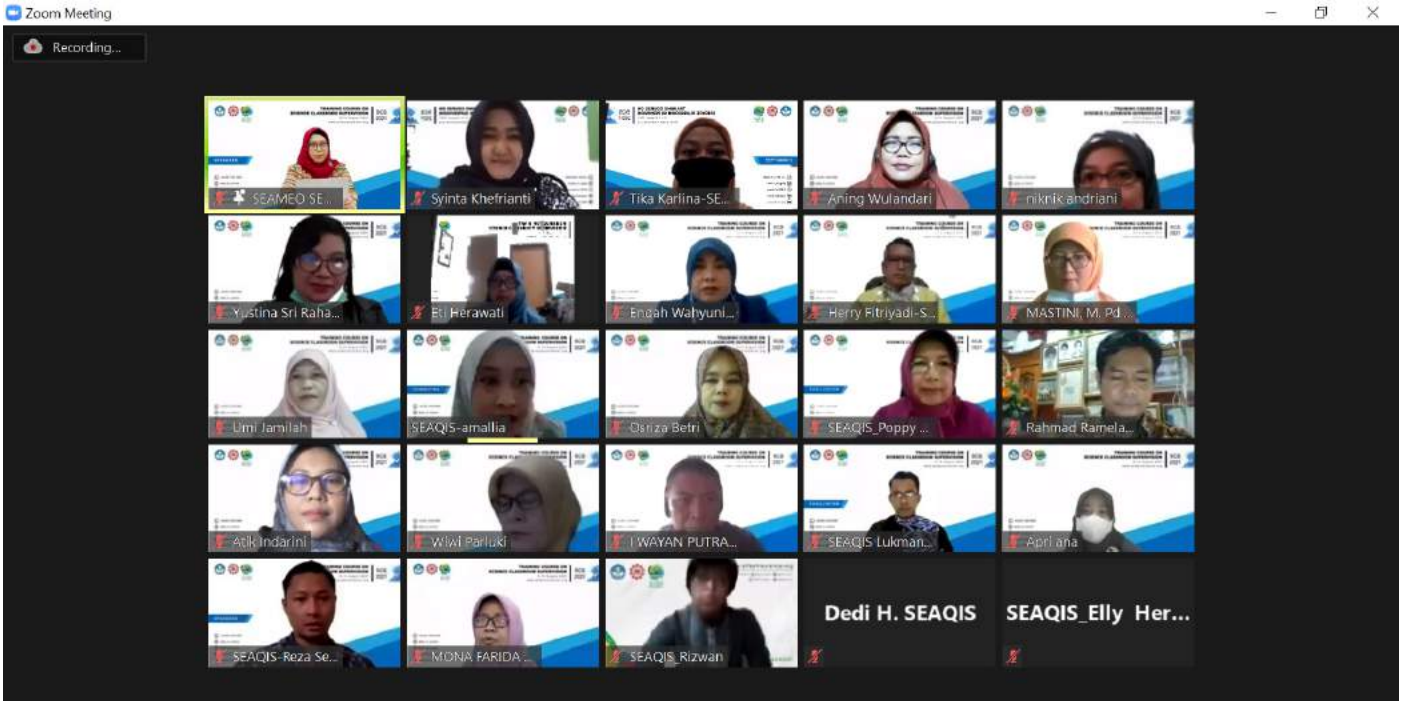
The second regular training is **Training on Earth and Space Science (ESS)**. After being postponed in 2020 due to the Covid-19 pandemic, in 2021 SEAQIS was finally able to reorganise the Regular Training Course on Earth and Space Science (ESS). This ESS training was fully conducted using online mode from 1 to 8 November 2021 and attended by 20 participants consisting of 17 participants from Indonesia and 3 participants from the Philippines.





Participants received various materials regarding ESS such as: (1) Disaster Risk Reduction by Dr. Irwan Meilano from ITB, Indonesia; (2) Introduction to ESS resources and misconceptions by Dr. Joanne Watkins from Australian Earth Science Education (AusEarthEd); (3) Earth materials in school learning by Rosie Williams and the team from EarthEd Australia; and (4) The movement of Sun by Dr. Judhistira Aria Utama from UPI, Indonesia.

In addition, participants were also given hands-on activities related to the materials they learn, such as: (1) Preparing mind maps of earth and space materials for elementary and secondary schools; (2) Developing learning scenarios; (3) Making simple sundials; and (4) Calculating the accuracy of reading the sundials. At the end of the session, the representatives of participants conducted a teaching simulation according to the learning scenario that had been developed.



Training on Science Classroom Supervision aims to improve the competence of school principals and superintendents in conducting academic supervision, particularly science learning. The participants of the training were 20 principals and superintendents. The training was facilitated by experts, the academic team of SEAQIS, and an external resource person. Moreover, it was conducted from 5 to 14 August for 60 learning hours through Zoom cloud meeting

During the training, participants were provided information regarding the trend and current issues of global education including STEM learning. Participants learned how science learning is delivered in accordance with 21st-century skills such as critical thinking, problem-solving, literacy, and numeracy. The topics discussed in this training were SEAQIS flagship programme, the nature of science, science learning, quality assurance system, science learning supervision, and follow-up action. In general, this training develops topics related to the new paradigm in education supervision.

b. Customized Training Activities

Southeast Asia Climate Change Education Programme (SEA-CEP) Training of Trainers: Climate Agent of Change for Teachers and Principals in Indonesia Region.

SEAQIS conducted Training of Trainers (ToT) Phase 1 from 17 to 25 May 2022 at BBGP (Balai Besar Guru Penggerak) West Java, Bandung. This training was attended by 39 science teachers and 12 principals from Bandung, Karawang Regency, Cianjur Regency, Purwakarta Regency, Subang Regency, Indramayu Regency, Demak Regency, Blitar Regency, Tasikmalaya Regency, and Sumedang Regency, in order to increase the awareness and knowledge regarding climate change education.

Training on the Improvement of Primary Teachers Competencies in Mataram City, West Nusa Tenggara Province, Indonesia

T his training was a follow-up action after the signing of Memorandum of Understanding (MoU) between SEAQIS and Mataram Education Office to increase the competence of Elementary School Guide Teachers in Teacher Working Group (KKG) Mataram for mastering the material, structure, science concepts, as well as science process skills with its implementation in learning.

In this training, SEAQIS collaborated with resource persons from the University of Mataram in presenting material related to the implementation of an independent curriculum in science learning based on local wisdom. In addition, the participants were guided in creating hands-on activities, such as electric current circuits, while others were observing the solvent in water. This training was held face-to-face in Mataram from 27 to 29 June 2022 at BPMP (Balai Penjaminan Mutu Pendidikan) Building, West Nusa Tenggara

STEM Implementation Programme at SEAQIS Partner Schools in 2022 (Global Islamic School, Banjarmasin)

As a form of collaboration with new partner schools which are Lower and Upper Secondary of Global Islamic Boarding School (GIBS), SEAQIS has conducted Mentoring Programme for STEM Implementation in Learning according to School's Local Context. The programme consisted of a series of training, which were In-House Training, Teachers Mentoring, STEM Learning Observation, and Training Reflection.

SEAQIS held the IHT at GIBS in Banjarmasin from 28 to 30 March 2022. 32 teachers consisting of 18 upper secondary school teachers and 14 lower secondary school teachers participated in this IHT. During the IHT, teachers were introduced to some concepts in STEM learning, such as (1) STEM learning in 21st-century skills; (2) Framework of STEM learning Engineering Design Process (EDP) and design thinking; (3) STEM Project Identification; (4) STEM Project-Based Learning (STEM-PjBL) learning model; and (5) How to develop the scenario and its implementation in a classroom. The participants also actively joined in hands-on activities regarding the engineering design process, such as daily food menu arrangement and bungee jumping prototype.

c. Workshops, International Conference, and Webinars

SEAMEO QITEP in Science conducted 8 workshops and 11 webinar series in the fiscal year 2021/2022.

Workshop on Southeast Asia Climate Change Education Programme (SEA-CEP).

Workshop on Southeast Asia Climate Change Education Programme (SEA-CEP) consists of three workshop series. The first workshop was conducted in August 2021 with discussions on the preparation of academic manuscripts, meanwhile the second workshop was held in October 2021. The third workshop was conducted on 11 March 2022 focusing on the finalisation of academic. The paper contains the ideas and material in implementing SEA-CEP programmes. The paper is also expanded in an integrated manner by considering various fields of study which support SEA-CEP goals and the relevant policy. Therefore, the paper can be utilised to provide the academic justification for the plans and roadmap of EESD and CCE implementation based on the criteria developed by SEAQIS, with several indicators derived from international and national agreements regarding sustainable development education.

International Conference Innovation in Science Teaching and Learning Towards Industrial Revolution 4.0: 3rd Ki Hajar Dewantara Award

The International Conference in this period was held in November 2021 with the theme "Science Education and Teacher Professional Development". In addition, this event was also followed by the 3rd Ki Hajar Dewantara Award, the biennial event of SEAQIS. This event, which aims to appreciate science teachers, carried the theme "Innovation in Science Teaching and Learning Towards Industrial Revolution 4.0."

In 2021, the representatives from seven countries presented their best practice, which were: (1) Dr. Makarimi bin haji Awang Kassim (Brunei Darussalam); (2) Mov Veasna (Cambodia); (3) Binar Kasih Sejati (Indonesia); (4) Mohd Azif bin Shukor (Malaysia); (5) Joey Ian C. Singson (Philippines); (6) Ang Peng Siang (Singapore); and (7) Kiettisak Inrajsadon (Thailand). Also, the 19 top Indonesian Science Teachers presented their best practice during the parallel session of the International Conference.

The first winner of the 3rd Ki Hajar Dewantara Award was Mr. Kiettisak Inrajsadon (Thailand), the 2nd winner was Mr. Mohd Azif bin Shukor (Malaysia), and the 3rd winner was Mr Ang Peng Siang (Singapore).

Kiettisak Inrajsadon

Mohd Azif bin Shukor

Ang Peng Siang

B. KRA 2
Regional Visibility

In FY 2021/2022, SEAQIS carried out two main programmes to improve regional visibility namely Networking and Publications. The detailed information of KRA 2 (Regional Visibility) can be seen as follow.

1. Networking

The first programme is networking which has a sub-programme called collaborative training activities. The detailed information on collaborative training activities can be seen as follow.

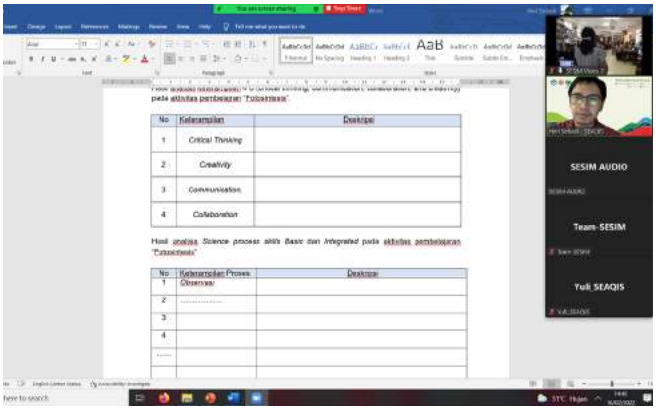
Collaboration Training

01	In-House Training 4 Implementation of STEM Learning in Partner Schools (YBRI)	62 teachers
02	Training on Supervision Competency Improvement for Primary School Principals and Supervisors in North Lombok Regency Batch 3	35 participants
03	Workshop on 21st Century Skills through Technology in Science and Mathematics for Timor Leste Science Teachers	34 participants
04	Training on Strengthening Core Teacher Competencies for Science Elementary Schools in Batur, Banjarnegara Regency	15 teachers
05	Training on Strengthening Core Teacher Competencies for KKG Science Elementary Schools in Kejajar Regency	22 teachers
06	Training on Implementasi Kurikulum Merdeka for Junior High School Teachers	222 teachers
07	Training on Implementasi Kurikulum Merdeka for Junior High School Principals and Supervisors	263 teachers
08	Training on implementasi Kurikulum Merdeka for Elementary Teachers in Bogor Regency	276 teachers

Workshop on 21st Century Learning Timor Leste

Workshop on 21st-Century Skills through Technology in Science and Mathematics had been conducted online from 14 to 18 February 2022. This event was attended by 34 participants from senior high school and higher education in Timor Leste, facilitated by Dr. Poppy Kamalia Devi, Mr. Lukman Nulhakim, Mr. Heri Setiadi, Mr. Gunawan Muhammad, and Mr. Dian Purnama. The participants were expected to have a better understanding regarding the integration of 21st-century skills through this workshop consisting of critical thinking, communication, collaboration, and creativity skills.

The presented materials are: (1) Global Education Trends and Issues; (2) The Nature of Science and Science Education; as well as (3) Science Activities using Technology in Biology, Chemistry, Physics, and Science Classroom Supervision. The presentation method, questions and answers, and worksheet filling for participants were conducted in each session. After the facilitator of "Science Activities using Technology in Chemistry" presented the materials, the participants were filling out the provided worksheets that contained several questions about acid-base. The questions could be answered using the virtual lab at phet.collorado.edu.



Training on Strengthening the Competence of KKG IPA Core Teachers in Batur District

SEAQIS conducted onsite training for 15 teachers of KKG IPA in Batur District from 19 to 21 May 2022. This training aimed to improve the competence of elementary school teachers in mastering the materials, structure, concept, and process skills of Science as well as in implementing Science learning in order to disseminate the knowledge to their colleagues. SEAQIS team who taught in this training are Mr. Reza Setiawan (Deputy Director for Programme) and Dr. Poppy Kamalia Devi (Head of Programme and Training Division).

Mr. Reza Setiawan officially opened this event and delivered the training orientation on the first day. The opening ceremony was also attended by Mrs. Suminten, the supervisor of Batur District. There were three materials delivered on the first day of training: (1) Science education in Kurikulum Merdeka; (2) The nature of Science and Science learning; and (3) Strengthening Science subject materials.

On the second day, SEAQIS team was continuing the topic of strengthening Science subject materials and adding two materials, which were Science learning strategy and simulation of learning activities in KKG. Meanwhile, the strategy of facilitating in KKG and making action plan were discussed on the last day of training following the simulation agenda.

SEAQIS Partners

In this KRA, SEAQIS accomplished two main activities, including cooperation and publication. In the fiscal year 2021/2022, SEAQIS established cooperation with 12 institutions. This collaboration was marked by the signing of the Memorandum of Understanding (MoU) and 8 cooperation agreement. Generally, the MoU aims at improving the competence of science teachers and education personnel in the region. Apart from the signing of the MoU, SEAQIS also received visits from various institutions, including schools and universities. The followings are the institutions which collaborated with SEAQIS in the fiscal year 2021/2022

FSaintek Universitas Asy-Syafiiyah

Alphawave Institute

HIGHLY FUNCTIONING EDUCATION CONSULTING SERVICES (HAFECS)

System Dynamics Center

Universitas Negeri Surabaya

Dinas Pendidikan Kota Mataram

PIKSI Ganesha

YPLP PGRI

PT TECHPOLITAN INDONESIA PERSADA

Assemblr

PPTIK ITB

SMP - SMA Global Islamic Boarding School (GIBS)

FKIP Universitas Mataram

FMIPA Universitas Mataram

Dinas Pendidikan dan Kebudayaan Kabupaten Ogan Ilir

Dinas Pendidikan Kabupaten Ogan Komering Ulu

Dinas Pengendalian Penduduk dan Keluarga Berencana, Pemberdayaan Perempuan dan Perlindungan Anak Daerah

Pusat Riset STEM Universitas Syiah Kuala

Pasca Sarjana Universitas Mataram

Pertamina Hulu Rokan

Publications

SEAQIS' publication consists of printed and digital publications. The printed publication includes a bulletin, which is published in one volume every three months, and a magazine which is published twice in a year. The bulletin contains information and news regarding the Centre's activities. Meanwhile, the magazine contains several features such as the Centre's special programmes, Science Fact, Event, Movie Review, Research Paper, Alumni, and SEAQIS' Corner. The magazine's name is "Q-Science Magazine".

From July 2021 until June 2022, SEAQIS has published four volumes of bulletin and two editions of magazine. The four volumes of bulletin are:

1) Issue no. 11 covered news from July to September 2021. This volume was issued in the first week of October. The main topic of this volume was the Training Course on Science Classroom Supervision

2) issue no. 12 covered news from September to November 2021. This issue was published in the first week of December putting the 12th Governing Board Meeting as its main topic, followed by the 3rd Ki Hajar Dewantara

Seaqis Bulletin

Bandung, March 20

Seven SEAMEO C
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(UNRAM) and
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the plan to sign a
dum of Understand
between seven SCI

SEAQIS Bulletin

Seaqis Bulletin

Bandung, June 2022 Issue #14

Training on The Implementation of Augmented Reality (AR) in Learning

SEAQIS has conducted Training on The Implementation of Augmented Reality (AR) in Learning from 16 to 17 March 2022. This online training was a partnership program between SEAQIS and Assemblr Edu. At least 20 people participated in this training, consisting of SEAQIS' staffs, teacher trainers from CDETEP in Science, and school teachers in West Java.

The facilitators during this training were Mr. Deden Nugraha and Ms. Shafa Nadhya Hidayat from Assemblr Edu. They were explaining the definition of Augmented Reality along with the features of Assemblr Edu app and how to utilise the app in science learning. The participants were also trained to create their own AR project based on their needs by applying the features of Assemblr Edu app. This training was expected to provide many advantages for the participants in creating and utilising AR on the learning media, especially in science.

The 2nd Training of Computational Thinking in Science Learning for Senior High School Teachers

Around 49 science teachers of senior high schools in West Java attended the second training of Computational Thinking (CT) in science learning. The participants are teachers who teach Physics, Chemistry, or Biology which has followed the first training in 2021. This event was conducted virtually from 22 to 24 March 2022 by the Programme and Training Division of SEAQIS.

Dr. Indrawati as the Director of SEAQIS officially opened this three-day training. She expected the teachers to disseminate their knowledge to junior high school teachers as well because children aged 12-15 years old have been the target of PISA (Program for International Student Assessment).

SEAQIS Bulletin 1

3) issue no. 13 covered news from December 2021 to February 2022. This issue was published in early March. This volume put Seven SEAMEO Centres in Indonesia in collaboration with Mataram University and Mataram Local Government to strengthen Merdeka Belajar

4) issue no. 14 was the last volume published in this period. This volume covered news from March to May 2022 and was issued in the first week of June 2022. The information loaded in this volume was the 2nd Training on Computational Thinking for Senior Highs School Teachers

During this Fiscal Year, SEAQIS also has published two editions of Q-Science Magazine. This magazine was initially published in the second semester of 2021 to cover various content about the Centre and science. The first edition put the 12th Governing Board Meeting as its main topic. And for the second edition in this semester, the magazine has been published in April 2022 with a collaboration programme between SEAQIS and partner schools Global Islamic School (GIBS), South Kalimantan.

SEAQIS also published 2 volumes of Journal titled SEAQIS Journal of Science Education (SciEd). This journal is the authoritative voice in science education field, covering science curriculum, instruction, learning, policy, and science teachers' preparation to advance our knowledge in science education theory and practice. The journal's focus is on the teaching and learning of science in a school setting ranging from primary school to secondary education. Each volume consists of five research papers authored by teachers and education personnel in Southeast Asia Region.

C. KRA 3
Solid Resource Base

Financial Viability

To undertake its programmes and activities during the fiscal year under review, the Centre's fund is augmented by the Government of the Republic of Indonesia which consists of a $332.455,78 for operating fund, and $197.983,96 for special fund.

Human Resource Development

To improve the competence of SEAQIS personnel, several human resource development programmes were conducted in FY 2021/2022. Various activities-academic or non-academic programmes-were attended by SEAQIS personnel.

Title	Achievements
Workshop Programme Evaluation	19 Staff
Science Learning Video Workshop	85 Participants
Research Instrument Validation Workshop	21 Staff
Program Evaluation Workshop 2021	39 Staff
Workshop on Programming, Syllabus and Training Guidelines for 2022	25 Staff
Workshop on Learning Management System Development	17 Staff
Data Science Development	16 Staff
Workshop on Augmented Reality for Science Education	40 Staff

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