



**COORDINATING COMMITTEE FOR GEOSCIENCE PROGRAMMES
IN EAST AND SOUTHEAST ASIA (CCOP)**

74th Steering Committee (SC) Virtual Meeting

01:00 – 04:30 p.m., Wed 24 June 2020, Bangkok Time

CCOP PROGRESS REPORT

(1 January – 31 May 2020)

Submitted by

CCOP Technical Secretariat

CCOP PROGRESS REPORT

This report covers the period **1 January - 31 May 2020**.

I. ADMINISTRATION AND PERSONNEL

As of 31 May 2020, the CCOP Technical Secretariat (TS) has 10 personnel, comprising three professionals, six supporting staff and one out-sourced staff. The operational organization chart of the Technical Secretariat is shown in **Figure 1**.

The 55th CCOP Annual Session was held at Kantary Hills Hotel, Chiang Mai, Thailand, on 4-7 November 2019.

The MoU Signing between the Royal Thai Department of Mineral Resources (DMR) and the Korea Institute of Geoscience and Mineral Resources (KIGAM) was held. The purpose of this MoU is to set a framework for the cooperation between DMR and KIGAM in the areas of mutual interest related to geosciences such as: Geology and Geo-information; Mineral Resources; Geohazards; Geoscience Training Centre and Geological Museum; and Geopark Development. The signee representing DMR is Dr. Sommai Techawan, DMR Director-General and representing KIGAM is Dr. Bok Chul Kim, KIGAM President. Witnesses were Dr. Seong-Pil Kim, Director of Global Cooperation, KIGAM and Mr. Montri Luengingkasoot, Deputy Director-General, DMR.

The 73rd CCOP Steering Committee (SC) Meeting was held at Kantary Hills Hotel, Chiang Mai, Thailand, on 8-9 November 2019.

The Meeting endorsed the CCOPTS Director's proposal of extending the service of Dr. Dhiti Tulyatid as Regional Expert, for another two-year term, from 1 May 2020 to 30 April 2022.

The Election of Chairperson and Vice-Chairperson of CCOP Steering Committee (Term: 2020-2021). As nominated and seconded by Japan and Korea Delegations respectively, the Meeting elected the Permanent Representative of Malaysia to CCOP, Datuk Shahar Effendi bin Abdullah Azizi to continue his service as Chairperson of the CCOP Steering Committee for another two-year term, 2020-2021, and the Permanent Representative of Thailand to CCOP, Dr. Sommai Techawan, as the Vice-Chairperson.

Datuk Shahar Effendi bin Abdullah Azizi accepted with appreciation to continue his term as Chairperson of the CCOP Steering Committee for the term 2020-2021. Likewise, on behalf of Dr. Sommai Techawan, the Thailand Delegation accepted with thanks to serve as the Vice-Chairperson of the CCOP Steering Committee.

The CCOP Advisory Group Meeting held during the 55th CCOP Annual Session in Chiang Mai, Thailand, 4-7 November 2019 re-elected Mr. Ioannis Abatzis, Representative of Denmark to CCOP and Dato' Yunus Abdul Razak, CCOP Honorary Advisor as Chairperson and Vice-Chairperson of the CCOP Advisory Group respectively for 1 January - 31 December 2020.

The CCOP Advisory Group nominated Mr. Chen Shick Pei, CCOP Honorary Adviser and Dr. Martin Smith, Science Director, British Geological Survey (BGS), United Kingdom, to jointly operate as the Editors-in-Chief for CCOP publications.

The Advisory Group extended its sincere appreciation to Dr. Anthony Reedman for his long-term contribution to CCOP and for him being the Editor-in-Chief for CCOP publications for the last many years. Also, CCOPTS expressed its gratitude and appreciation to Dr. Anthony Reedman. His contributions to CCOP are greatly appreciated.

The 74th CCOP Steering Committee (SC) Meeting has been postponed due to the Coronavirus Disease 2019 (COVID-19) outbreak.

The global pandemic of COVID-19 has greatly impacted on much of the international travels especially in the CCOP region. We have monitored the situation with careful consideration on all the factors including the outbreaks situation in many countries and CCOP Member Countries policy on international travels and quarantine requirement. In order to prevent and minimize the outbreak of COVID-19 among CCOP Member Countries and for the safety of all CCOP Member Countries' delegation, we have decided to reschedule the 74th CCOP Steering Committee Meeting to 22-25 June 2020, Siem Reap, Cambodia.

We have made this decision based on information, advice and consultation with the General Department of Petroleum, Ministry of Mines and Energy, Cambodia and CCOP Member Countries. **"THE SAFETY OF OUR DELEGATIONS AND TEAM IS OUR FIRST PRIORITY."**

The venue and layout will stay the same and we will keep you fully informed of any further developments. We would like to take this opportunity to thank you all for your ongoing support and understanding which has been invaluable.

It has been a big adjustment for millions of people as we try to stop the outbreak of COVID-19 in order to prevent the overload of the healthcare system. CCOPTS has worked from home during 25 March - 30 April 2020 in compliance with the Royal Thai Government's Emergency Decree. All CCOPTS's staff were on-call when necessary.

After consultations with CCOP Member Countries with recommendation from the CCOPTS, the Chairperson of the CCOP Steering Committee (SC), Datuk Shahar Effendi bin Abdullah Azizi decided to hold the 74th CCOP Steering Committee Meeting as scheduled, on 24 June 2020 via Zoom Meeting, from 01:00 - 04:30 p.m. (Bangkok time). This is the first ever virtual meeting of the CCOP Steering Committee. Let us all move forward, while adapting to the "new normal".

The newly appointment of Permanent Representative of Member Country and Cooperating Country to CCOP.

Associate Professor Adam Switzer, Principal Investigator, Asian School of the Environment, Earth Observatory of Singapore (EOS) & AXA-Nanyang Chair in Natural Hazards, Nanyang Technological University, Singapore succeeded Prof. Kerry Sieh as Permanent Representative of Singapore to CCOP. **Dr. Le Quoc Hung** succeeded **Dr. Nguyen Van Nguyen** as Deputy General Director of the General Department of Geology and Minerals of Vietnam and as Permanent Representative of Vietnam to CCOP.

On 12 February 2020, CCOPTS received an update detailed information from **Yves Vanbrabant**, Geologist, Acting Director of the Geological Survey of Belgium, Royal Belgian Institute for Natural Sciences, Geological Survey of Belgium (GSB), informed that **Dr. Vanessa Heyvaert**, Geological Survey of Belgium, has accepted to take the role of contact person for Belgium. Vanessa has a recognized expertise in geohazards related to extreme wave events in littoral environment in different parts of the world, including Southeast Asia (Thailand and Japan).

On 26 February 2020, CCOPTS received an update detailed information from **Kaj Lax** (MSc, PhD), Head of Department, Geological Survey of Sweden (SGU) appointed **Ms. Lisbeth Hildebrand**, Senior Geologist – EU coordinator, Geological Survey of Sweden, as a contact person for CCOP.

Message of Condolence: We respectfully extend our sincerest sympathy and condolences upon the passing away of **Professor Dr. Father Henri Fontaine**. The death of such a great geoscientist filled the people of CCOP’s Member Countries with deep sorrow and a sense of great loss.

Father Fontaine was renowned for his contribution to the geological work in the CCOP region. He had greatly contributed to geoscience work and study in a number of CCOP’s Member Countries. His work provided new data on stratigraphy, palaeontology and palaeogeography in the region, which provided a good foundation on the study of geoscience for the present and future generations of geoscientists to continue their works.

CCOP Technical Secretariat would like to express deep and heartfelt condolences to the Fontaine family. May the Lord give the entire family strength and courage to bear this loss.

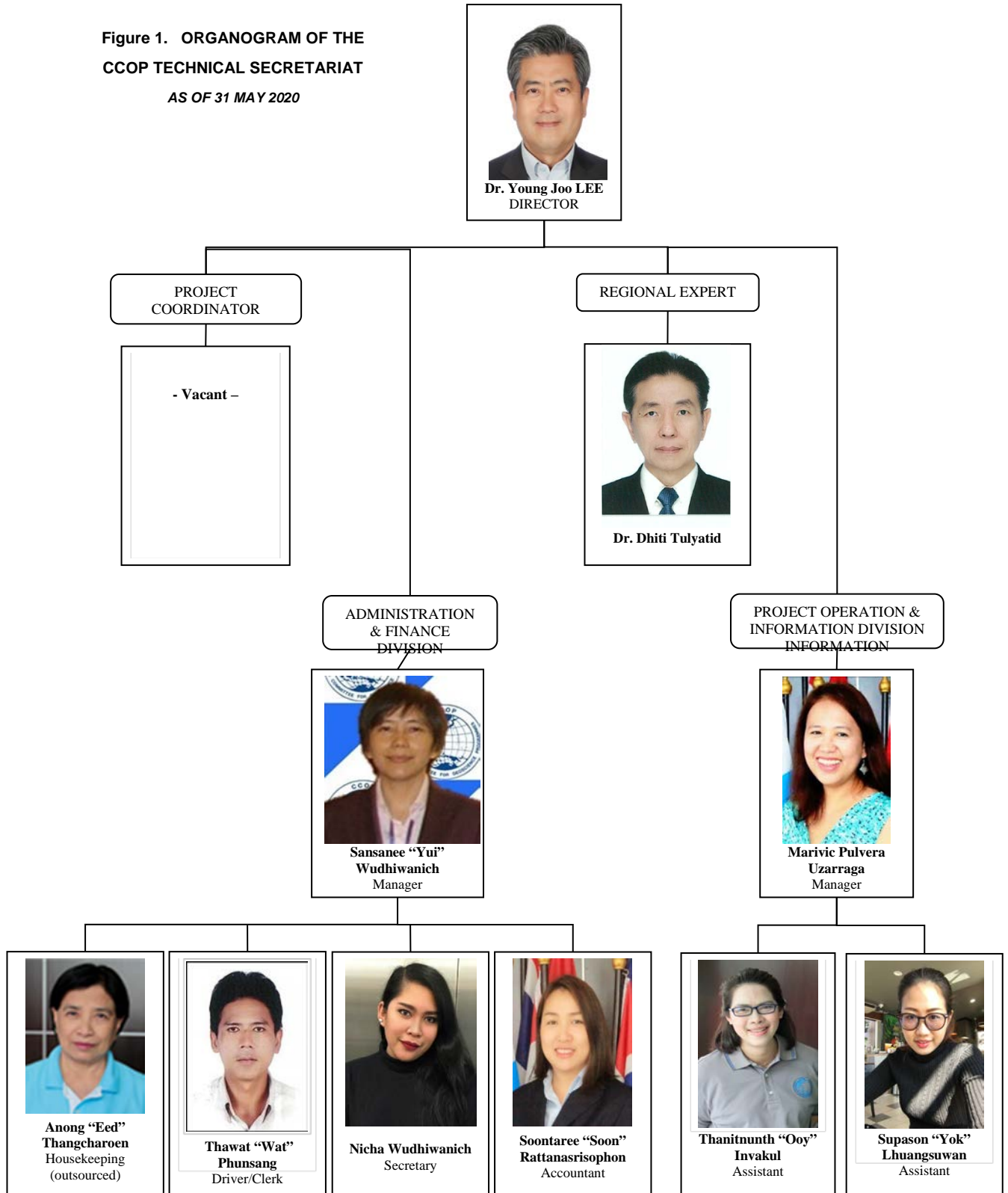
Actions taken on the recommendations of the Advisory Group Meeting at the 55th CCOP Annual Session and on the decisions made at the 72nd and the 73rd CCOP Steering Committee Meetings are listed in **Annex I**.

Listed in below table are the Permanent Representatives (PRs) of the Member Countries to CCOP.

No.	Member Countries	Permanent Representatives (PRs)	Office
1.	Cambodia	H.E. Mr. Cheap Sour	Director-General, General Department of Petroleum, Ministry of Mines and Energy
2.	China	Dr. Li Jinfa	Vice-President, China Geological Survey
3.	Indonesia	Mr. Rudy Suhendar	Head, Geological Agency, Ministry of Energy and Mineral Resources
4.	Japan	Dr. Yusaku Yano	Director-General, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology
5.	Republic of Korea	Dr. Bok Chul KIM	President, Korea Institute of Geoscience and Mineral Resources (KIGAM)
6.	Lao PDR	Mr. Keo Khamphavong	Director-General

			Department of Geology and Minerals Ministry of Energy and Mines
7.	Malaysia	Datuk Shahar Effendi bin Abdullah Azizi <i>(Chairperson, CCOP Steering Committee, 2018-2019 & 2020-2021)</i>	Director-General, Department of Mineral and Geoscience Malaysia (JMG)
8.	Mongolia	Mr. Kherlen Khishigjargal	Chairman, Mineral Resources and Petroleum Authority of Mongolia
9.	Myanmar	Dr. Ye Myint Swe	Ministry of Natural Resources and Environmental Conservation
10.	Papua New Guinea	Mr. Harry Kore	Secretary, Department of Mineral Policy and Geohazards Management
11.	Philippines	Atty. Wilfredo G. Moncano	Acting Director Mines and Geosciences Bureau
12.	Singapore	Associate Professor Adam SWITZER	Principal Investigator, Asian School of the Environment, Earth Observatory of Singapore & AXA-Nanyang Chair in Natural Hazards Earth Observatory of Singapore (EOS) Nanyang Technological University
13.	Thailand	Dr. Sommai Techawan <i>(Vice-Chairperson, CCOP Steering Committee, 2020- 2021)</i>	Director-General Department of Mineral Resources
14.	Timor-Leste	Mr. Helio Casimiro Guttereres	President, Institute of Petroleum and Geology - Public Institute, Ministry of Petroleum and Mineral Resources
15.	Vietnam	Dr. Le Quoc Hung	Deputy General Director, General Department of Geology and Minerals of Vietnam

**Figure 1. ORGANOGRAM OF THE
CCOP TECHNICAL SECRETARIAT**
AS OF 31 MAY 2020



CCOPTS Courtesy Visits and Visitors;

On 14 January 2020, Dr Young Joo Lee paid a courtesy visit to the President of KIOST, and visit to Host Scientist, Dr. Joo-Hyung Ryu, and discuss about possibility collaboration between KIOST and CCOP for GOCI-II Joint Ocean reference Network (GI-JOON), Korea Institute of Ocean Science & Technology (KIOST), Busan, Republic of Korea.

On 15-18 January 2020, Dr Young Joo LEE attended the 74th IUGS Executive Committee Meeting in Busan, Republic of Korea, and gave a presentation on CCOP Activity. CCOP was invited as a foundation member of DDE for the IGC 36th Signing Ceremony that was planned to be on 5 March 2020.

On 20 January 2020, Dr Young Joo LEE visited GTCK (Green Technology Center Korea) and KBSI (Korea Basic Science Institute), Republic of Korea, to discuss a possible collaboration on technology transfer to Member Countries through the development of machines for scientific analysis.

On 21 January 2020, Dr Young Joo LEE visited MOFA (Ministry of Foreign Affairs) and attended a meeting with Mr Sung-Wook Jo, Director of ASEAN Cooperation Division, to have discussions of AKCF on Groundwater issues on raising capacity for sustainable Groundwater Management and securing clean water in ASEAN of USD 1M for a 5-Year period. In addition, Dr Young Joo LEE met with Mr Ryu Hak-Seok, the First Secretary of International Energy Security Division, to discuss the possible collaboration between CCOP and MOFA such as the continuation of internships.

On 27 January 2020, a courtesy visit of Dr Young Joo LEE, Director, and Dr Dhiti Tulyatid, Regional Expert of CCOPTS, to Mr Kanok Intharawijitr, Executive Vice President, PTT Exploration and Production Public Company Limited (PTTEP) at head quarter office in Bangkok, Thailand, to discuss a possible cooperation on 1) National capacity building on sustainable energy resource management; and 2) the Technology exchange on deep coastal and submarine groundwater aquifer.

On 29 January 2020, Dr Young Joo LEE, Director and Ms Marivic Pulvera Uzarraga, Programme Manager, CCOP TS visited UNESCO Jakarta. Meeting with Dr Khan (Director) and Dr Hans (Senior Program Specialist, Groundwater, Environment) on more collaboration possibilities.

On 30 January 2020, Dr Young Joo LEE and Ms Marivic Pulvera Uzarraga visited Mission of the ROK to ASEAN. Meeting with Ambassador Lim Sungnam, KO Park and SJ Son and have discussion on AKCF project from CCOP. Meeting with AKPMT (ASEAN ROK Program Management Team), Ms Bokhee Park (Counsellor) Mr SH Kim & Anggiet Yoga Ariefianto, have discussion on how to prepare proposal for AKCF fund.

On 31 January 2020, Honorable Excellency 8th Secretary General of the UN Mr Ban Ki-Moon visited Bangkok to deliver Distinguished Person Lecture in UN ESCAP on Climate Change and Air Pollution in Asia. Dr Young Joo LEE was invited by Honorable Korean Ambassador Lee Wook-Heon to have chance dinner together with Secreatry General Ban Ki-Moon at the residence of Korean Ambassador in Thailand.

On 13 February 2020, Dr Young Joo LEE paid a courtesy visit to Dr Hongjoo Hahm, Deputy Executive Secretary of UN ESCAP in Bangkok. They had a very constructive discussion on how

CCOP and UN ESCAP can collaborate and cooperate with each other on the subjects which can be mutually beneficial. They came up with the consensus that both organizations try best to find out projects in the field of Global Climate Change, Urban Geology and Big Data Platform of Marine environment.

On 27 February 2020, Mr Shaun Versace, Principal Geologist – Data & Resources, PanAust Limited, kindly visited CCOP TS Headquarters in Bangkok. Dr Young Joo LEE, Director, and Dr Dhiti Tulyatid, Regional Expert, CCOP TS, welcomed Mr Versace who has joined several of CCOP's activities related to the application of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC). Dr Dhiti introduced the proposed proposal on National Capability Building on Resources Management Project and extended the invitation to PanAust Limited to take part in the project as one of the partners. Mr Versace agreed to take the messages into the consideration of his colleagues back in Pan Aust Limited. However, on 25 March 2020, Mr Sean Versace sent a message to inform us that Pan Aust Limited would like to be involved and continue our communication as well as commit to providing any technical support.

II. FINANCE

(1 January - 31 May 2020)

From 1 January to 31 May 2020, Member Countries' total cash contributions amounted to **USD 160,000.00** that consists of Japan (USD 60,000), Myanmar (USD 10,000), Philippines (USD 40,000), Singapore (USD 10,000), Thailand (USD 40,000) (**Table 1**).

Table 1. Cash Contributions of Member Countries for 2019 - 2020
(as of 31 May 2020)

Member Countries	2018 Contribution Received in 2018	2019 Contribution Received in 2019	2020 Contribution Received in 2020	2019 Contribution Expected to Receive in 2020	2020 Contribution Expected to Receive in 2020
Cambodia	10,000.00	10,000.00	-	-	10,000.00
China	50,000.00	50,000.00	-	-	50,000.00
Indonesia	40,000.00	55,000.00	-	-	55,000.00
Japan	50,000.00	60,000.00	60,000.00	-	-
Republic of Korea	60,389.80	60,000.00	-	-	60,000.00
Lao PDR	10,000.00	-	-	10,000 (Y2019)	10,000.00
Malaysia	50,000.00	50,000.00	-	-	50,000.00
Mongolia		*10,000.00	-	-	10,000.00
Myanmar	5,000.00 (1/2) (Y2018)	10,000.00 5,000 (2/2) (Y2018)	10,000.00	-	-
Papua New Guinea	-	-	-	25,000 (Y2019)	25,000.00
Philippines	40,000.00	40,000.00	40,000.00	-	-
Singapore	10,000.00	10,000.00	10,000.00	-	-
Thailand	40,000.00	40,000.00	40,000.00	-	-
Timor-Leste	-	-	-	10,000 (Y2019)	10,000.00
Vietnam	25,000.00	25,000.00	-	-	25,000.00
Total	390,389.80	425,000.00	160,000.00	45,000.00	305,000.00

*Mongolia cash contribution contributed in 2019 (USD 10,000)

(A signing ceremony to officially welcome Mongolia as new Member Country of CCOP was held at the 71st SC Meeting, 2-3 November 2018, Busan, Republic of Korea)

In addition to Member Countries' contributions, the amount of **USD 10,052.40** was earned from the management of projects during January – May 2020 period (**Table 2**). Other incomes during the period amounted to **USD 319.55** including interest earned, publication sales, gain/loss on exchange, and miscellaneous income. The total income during the period was **USD 170,371.95**. The expenditure of **USD 162,863.02** was incurred from operations and administrative support. The total cash at Bank as of 31 May 2020 amounted to **USD 971,052.04**.

**Table 2. Execution of Project and Activity, from their Management and Income
(1 January - 31 May 2020)**

Funding Source	Activities	Country	Period	Amount (USD)
KIGAM	CCOP-KIGAM Groundwater Project: Vulnerability Assessment to Climate Change of Groundwater System in Greater Mekong Subregion and Comparative Study of Groundwater Dependent Ecosystem	Bangkok, Thailand	March 1, 2020 1st Installment 2020 (1/2)	3,909.44
KIGAM	CCOP-KIGAM Project: Sharing System Establishment of Digital Geological Sample Data in CCOP Countries	Bangkok, Thailand	March 1, 2020 1st Installment 2020 (1/2)	6,142.96
Total Project Management Income				10,052.40
Net Total Project Management Income for Budget Year 2020				10,052.40

Target Project Management Income for Year 2020, USD 37,000.00

The Financial Report for the period January – May 2020 of CCOP is being audited by Dhamniti Auditing Co., Ltd. is in **Annex II**.

The Technical Secretariat office premise is continuously being provided by the Royal Thai Government, through the kind arrangement of the Department of Mineral Resources (DMR), Ministry of Environment and Natural Resources, at permanent CCOPTS Building within DMR's complex area.

The Royal Thai Government through the Department of Mineral Resources (DMR) also accorded the privileges and the cooperation to enable the Technical Secretariat to operate efficiently and effectively.

III. ACTIVITIES

During 1 January – 31 May 2020, there were a total of **7 activities** as listed below. Some activities have been postponed and/or cancelled.

List of Activities carried out, co-organized and participated by CCOP in 2020, and upcoming activities

DATE / VENUE	ACTIVITY	STRATEGIC GOAL
<i>13-22 Jan 2020</i> <i>Busan & Seoul, KR</i>	<i>IUGS 74th Executive Committee Meeting and visit KOGAS, KIOST, GTCK</i>	<i>Cooperation</i>
<i>27 Feb 2020</i> <i>Bangkok, TH</i>	<i>The International Seminar on “Bangkok The Underwater City: Countermeasures”</i>	<i>Cooperation</i>
29 Apr 2020	CCOP-KIGAM 2020 GW Project Meeting via Zoom Application	Cooperation
20 May 2020	The first CCOP Strategic Plan Working Group Video Conference via Zoom Application	Cooperation
28 May 2020	CCOPTS-GAI Zoom Meeting	Cooperation
8 Jun 2020	CCOPTS-GDGMV Zoom Meeting	Cooperation
24 Jun 2020	74 th CCOP Steering Committee Virtual Meeting	Cooperation
<i>29 Jun – 2 Jul 2020</i> <i>Singapore</i>	<i>ASOMM Working Group Meetings</i>	<i>Cooperation</i>
Aug/Sep 2020	CCOP-KIGAM Groundwater Project International Workshop	
Aug/Sep 2020	2 nd Meeting of the CCOP Strategic Plan Working Group	Cooperation
Aug/Sep 2020	GDR Project First Workshop	Data and Information
Aug/Sep 2020 <i>Bali, ID</i>	The Final Meeting of UnCon Project Phase II	KES
23-25 Sep 2020 <i>Chengdu, China</i>	UNECE-CCOP-IFEDC UNFC/PRMS Session: Resources Management, Technology and Practice, IFEDC 2020	Cooperation
1-7 Nov 2020	56 th CCOP Annual Session & 75 th Steering Committee Meeting	Cooperation
<i>9-14 Nov 2020</i> <i>Delhi, IN</i>	<i>36th International Geological Congress (36 IGC)</i>	<i>Outreach</i>
2020 <i>GSI, Tsukuba, JP</i>	GSI International Training Course on Practical Geological Survey Techniques	KES

Notes: TBC – To be confirmed; *Text in Italics* – Mission Trips

COOPERATION AND PARTNERSHIP

CCOP continued to collaborate with its MCs, CCs and COs in implementing the planned activities and facilitate other new activities. Table 2 summarizes the activities and cooperation from 1 January to 31 March 2020.

Table 2. Summary of CCOP Technical Activities with Member Countries, and Cooperating Countries & Organizations

Country/ Organization	CCOP Technical Activities
<i>1) Member Countries</i>	
Japan	GSJ continues to financially and technically support the following projects: <ul style="list-style-type: none"> • Geoinformation Sharing Infrastructure for East and Southeast Asia (GSi) Project • CCOP-GSJ Groundwater Project Phase IV
Republic of Korea	KIGAM support financially and technically the following projects: <ul style="list-style-type: none"> • Vulnerability assessment to climate change of groundwater system in Greater Mekong Subregion and comparative study of groundwater dependent ecosystem • Geoscience Data Repository (GDR) system of CCOP Member Countries
Thailand	DMR continues to support the Permanent Office Building for CCOPTS in DMR Complex, Bangkok, Thailand.
<i>2) Cooperating Countries / Organizations</i>	
United States of America	The Geological Society of America (GSA) manages the 'Terman Fund' for the EAGER Award Project for CCOP Member Countries, which has been resumed in 2019 per the decision of the 72 nd CCOP Steering Committee Meeting in March 2019, Samui Island, Thailand.

The International Seminar on "Bangkok the Underwater City: Countermeasures"

On 27 February 2020, Dr Young Joo Lee attended the International Seminar on "Bangkok the Underwater City: Countermeasures" at C ASEAN Auditorium, CW Tower. Opening ceremony by Chief Executive Officer Ministry of Natural Resources and Environment (MONRE). There are guest speakers on 7 topics which are;

1. **Bangkok: The Underwater City: Situation 2020** by *Wim J.F. Simons, Tu Delft*, Netherlands
2. **Geologist Viewpoint** by *Dr. Sommai Techawan*, President of Geological Society of Thailand
3. **Geographer Viewpoint** by *Assoc.Prof.Dr. Wichai Pansnshiran*, Faculty of Social Science, Srinakharinwirot University
4. **Architectural and Urban Planning Viewpoint** by *Assist.Prof.Dr. Wijitbusaba Marome*, Faculty of Architecture and Planning, Thammasat University
5. **Engineering Viewpoint** by *Prof.Dr. Chalermchon Satirapod*, Faculty of Engineering, Chulalongkorn University
6. **Art and Cultural Viewpoint** by *Assoc.Prof. Roj Khunanake*, Director of Thai Khadi Research Institute, Thammasat University
7. **Lawyer Viewpoint** by *Assist.Prof. Chukeat Noichim*, School of Law, Mae Fah Luang University

CCOP-KIGAM 2020 GW Project Meeting via Zoom Application

On 29 April 2020 (14:00-15:00 hr, Bangkok), Korea Institute of Geoscience and Mineral Resources (KIGAM) and CCOP Technical Secretariat team had online meeting via zoom application on the CCOP-KIGAM 2020 GW Project; Title : “*Vulnerability assessment to climate change of groundwater system in Greater Mekong Subregion and comparative study of groundwater dependent Ecosystem*”. **Dr. Eunhee Lee**, KIGAM gave presentation on project summary, expected activity and project plan for year 2020. The consensus for the meeting is as following

- CCOP will set up and coordinate international platform by contacting MRC, UNESCO, IGRAC, IWMI, etc. and explore possibility for collaboration. CCOP will try to support this project by AKCF fund, once AKCF fund is successfully secured.
- For the installation of GDE monitoring network in GMS, we prioritize countries as follows,
 - Cambodia
 - Thailand
 - Vietnam
 - Lao PDR
 - Myanmar
- CCOP will contact to Cambodia and Lao PDR and ask for Groundwater level data set and send to KIGAM.
- Meeting agreed to have one offline meeting in August by this year depending on the global situation of COVID-19 pandemic.
- Meeting agreed that most important goal for year 2020 is ‘site selection’ for GDE monitoring.
- Meeting agreed to have capacity building or training for Cambodia and Lao PDR in either Korea or other Mekong Countries, if budget is allowed.

The first CCOP Strategic Plan Working Group Video Conference via Zoom Application

On 20 May 2020 (03:00-05:00 p.m., Bangkok), the first CCOP Strategic Plan 2021-2025 Working Group was carried out successfully via Zoom at meeting Room I, first Floor, Department of Mineral Resources in Bangkok, Thailand. The Department of Mineral Resources (DMR) hosted for the use of meeting room for CCOPTS and Thai participants. There were a total of 34 persons participated in the meeting. These included 25 people from 14 CCOP Member Countries:– Brunei Darussalam (3), Cambodia (2), China (3), Indonesia (1), Japan (2), Republic of Korea (3), Lao PDR (1), Malaysia (1), Mongolia (1), Myanmar (1), the Philippines (1), Thailand (4), Singapore (1) and Vietnam (1). Dr Martin Smith (UK) participated and facilitated the Strategic Plan session.

The Opening Speech was made by **Dr Young Joo LEE**, CCOPTS Director. Followed by all participants introduce themselves. **Dr Dhiti Tulyatid**, CCOPTS Regional Expert presented the progress report and introduction to the first draft of the CCOP Strategic Plan 2021-2025.

Dr Martin Smith of the British Geological Survey is the facilitator of the consideration and discussion of the First Draft CCOP Strategic Plan 2021-2025. Dr Smith presented on the topic of WHY? - STRATEGY FOR A CHANGING LANDSCAPE- step change or business as usual?; direction of travel, survival, and cost benefit analysis, align to

growing global challenges that require country solutions, recognizes regional SE&E Asia opportunities and emerging digital transformation opportunities. Several comments from SP Working group and participants were given during the meeting and also through zoom message chat.

Dr Young Joo LEE informed all SPWG that after getting consensus from CCOP Member Courtiers and have discussion with SC Chairperson that CCOP is supposed to have VDO conferencing for the upcoming the 74th CCOP Steering Committee Meeting on 24 June 2020.

Dr Dhiti Tulyatid encouraged all SPWG to send feedback to TS by the end of the week (23 May 2020) so that he could prepare the final draft from next week onward. The revision of the first draft will be sent to all SPWG again for consideration before being proposed to the upcoming CCOP Steering Committee Meeting. Hopefully we will have one offline meeting of SPWG during August or September this year. CCOPTS will keep updating information with SPWG. The Meeting was adjourned at 17:00 hr.

CCOPTS-GAI Meeting via Zoom Application

On 28 May 2020 at 10:00 a.m. (Bangkok Time), CCOP Technical Secretariat and Geological Agency of Indonesia's team had online meeting via zoom application about the 74th CCOP Steering Committee Meeting, 24-25 June 2020 and the preparation of the 56th CCOP Annual Session and 75th CCOP Steering Committee Meeting, 1-7 November 2020.

Mr Rudy Suhendar, Head of GAI, and PR of Indonesia to CCOP reported on the current situation of preparation of the 56th CCOP Annual and 75th Steering Committee Meeting and also proposed that 56AS & 75SC in Lombok will be postponed to next year or 2022.

During the meeting, **Dr Young Joo LEE**, Director of CCOPTS informed that the 74th CCOP Steering Committee Meeting is confirmed that will have VDO conference on Wed 24 June 2020, (01:00 – 04:30 p.m., Bangkok Time) and CCOPTS already send out the invitation letter to all MCs to join the VDO conference. CCOP will confirm about the venue of the 56th CCOP Annual and 75th Steering Committee Meeting in the 74th Steering Committee Meeting.

About the scheduled UnCon15 workshop, LEMIGAS and KIGAM has the intention to have UnCon15 workshop in Bali. However due to COVID19 pandemic in Indonesia, **Dr Eko**, GAI will contact to Mr Pannaju, LEMIGAS and share information with CCOPTS.

Mr Rudy Suhendar, Head of GAI and PR of Indonesia to CCOP, informed that he will be retired from 1 June 2020. CCOPTS all thanked Dr Rudy Suhendar for his strong support to CCOP as a PR of Indonesia to CCOP.

CCOP Projects/Workshops Initiated in 2020

1) CCOP-KIGAM Groundwater Project: Vulnerability assessment to climate change of groundwater system in Greater Mekong Subregion and comparative study of groundwater dependent ecosystem (2020-2022)

The project has started since 2013 in collaboration with KIGAM (Korean Institute of Geoscience and Mineral Resources, Korea) and UNESCO under the title “Regional study on groundwater resources and its interaction with Mekong River, with a special focus on the TBA management”, in an attempt to achieve sustainable management of groundwater resources in the CCOP regions by sharing information and discussing common issues. In 2017, CCOP and KIGAM commenced a pilot study of groundwater flow and its interaction with Mekong River, targeting a transboundary aquifer between Cambodia and Mekong Delta of Vietnam. In 2018 and 2019, the project team expanded the work area to cover the transboundary aquifer system between Lao PDR and Thailand, aiming to fill up the data insufficiency and raise the country’s capacity to manage groundwater resources with enhanced groundwater monitoring technology and international collaboration. The activities include the organizing of regional workshops for capacity building; install new groundwater monitoring wells in Vientiane Plain; organize a regional expert meeting; collect groundwater monitoring data; and, carry out groundwater flow system analysis in the target Transboundary Aquifer (Cambodia Mekong Delta Aquifer).

In 2020, the project team will organize collaboration working group (e.g. MRC, UNESCO, IGRAC, IWMI, etc.) for the realization of the groundwater monitoring network and develop strategy for the monitoring network installation. During this process, the project team will identify suitable sites for the monitoring well installation in partnership with the local/inter-governmental agencies and establish long-term monitoring network operation and management plan.

In 2021, the project team will start installation of groundwater monitoring network in GMS. Boreholes will be developed for the identified well installation sites and groundwater-monitoring sensors will be deployed at each well. Geophysical logging of the borehole will be carried out during the drilling process, and the pumping test and water quality analysis will be performed to characterize better TBA condition.

In 2022, the project team will continue installation of the groundwater monitoring network. Furthermore, the data transmission system that consists of a web-based server and the on-site monitoring devices will be installed at each observation station. The wireless data transmission system and data storage device will be established during the monitoring well installation process. This automatic data transmission system will allow the easy collection and process of groundwater data. System operators do not have to visit the site to record the data manually, except for the regular system inspection. Finally, a web-based portal will be designed and launched for open-access data sharing.

Once the well installation and construction of data-sharing portal is completed, the whole groundwater monitoring system will either be commissioned to the national/inter-governmental partners in GMS for long-term system operation and management or be operated by CCOP depending on the negotiation with the partner agencies. The groundwater experts from the KIGAM will support commissioning and training for system operation during the final step of the project.

CCOP TS has initiated its contact with the Mekong River Commission. Both parties is trying to link the activities for the benefit of Member Countries / States in the GMS.

2) CCOP-AKCF Project Proposal: Raising capacity for sustainable groundwater management and securing clean water in ASEAN (2021-2024)

The CCOPTS, together with the Korea Institute of Geoscience and Mineral Resources (KIGAM), International Environmental Research Institute (IERI), ROK's Kunsan National University and Division for Water Resources Planning and Investigation of the South of Vietnam (DWRPIS), developed this project proposal and submitted to ASEAN-Korea Project Management Team (AKPMT) for ASEAN-Korea Cooperation Fund (AKCF). This is a USD 4 Million project, which would run for 4 years.

The overall objective of this project is to assist and secure the groundwater management system in ASEAN in response to the need to adapt to potential climate vulnerably incidents including seawater intrusion, flooding, trace metal and bacteria contamination. This project will address the aforementioned issues through increasing the capacity of ASEAN countries for sustainable groundwater management and security of safe drinking water by convening relevant workshops, conducting training courses and providing internship for the region's groundwater managers and young scientists. ASEAN seawater intrusion monitoring network (ASEAN SIMnet) will be established with on-site training for the well installation and SIMnet operation. Pilot system of MAR (Managed Aquifer Recharge) will be installed and Aquifer Management Strategy for ASEAN will be drafted and shared among the ASEAN member states as well as the CCOP member countries. These systems are essential for ASEAN to establish the most-effective groundwater management strategy in coastal zones and to predict future groundwater status in response to changing climate. This project will also draft sub-regional geochemical mapping of groundwater quality in the ASEAN mandatory Mekong River region, compiling health risk assessment data of residents drinking arsenic-enriched groundwater and installation of a smart water treatment system (Subterranean arsenic removal and/or gravity-driven membrane (GDM) technologies) at the target sites.

3) CCOP-QIMG (CGS) Book Project – Coastal Erosion and Mitigation in Asian Countries

CCOP and Qingdao Institute of Marine Geology, China Geological Survey will carry out a book project "Coastal erosion and mitigation in Asian Countries".

Experts of Member Countries and Cooperating Countries would contribute to the book, which include the following contents: Coastal erosion situation review; Coastal protection and adaptive management; National case studies and good practices from Cooperating Countries; and Coastal management strategy.

The project is planned to have several meetings and seminars that will be undertaken by CCOP, China, Japan and the Republic of Korea. QIMG will be responsible for the publishing cost of the book, which will be published in English.

Expected outcomes include: CCOP Book: Coastal erosion and mitigation in Asian countries; Strengthen the cooperation between CCOP member countries and cooperative countries in the Marine geology field; and better communication and cooperation mechanisms for carrying out deeper maritime cooperation under the CCOP framework.

This two-year project to be launched in 2020 and finished in 2022.

4) CCOP – UNECE – PTTEP - PanAust Project on “National Capacity Building of East and Southeast Asian countries on Sustainable Energy Resource Management”

CCOP, along with the United Nations Economic Commission for Europe (UNECE) PTT Exploration and Production Public Company Limited and PanAust Limited (Australia), planned to launch a project titled “National Capacity Building of East and Southeast Asian Countries on Sustainable Energy Resource Management”. The project duration is two years (2021-2022).

The aim of the project is to improve national capacities of East and Southeast Asian countries to harmonize and implement an internationally applicable system of classification and management of energy resources, i.e., United Nations Framework Classification for Resources (UNFC). The project is targeted towards government policy-making organs such as the relevant ministries and institutions like the national geological surveys; petroleum authorities and companies; and universities and is expected to enable better management of natural resources. Expected results are: To improve national capacities to develop a national system for classification and sustainable management of all energy resources based on the UNFC; to improve knowledge and skill of national stakeholders to apply UNFC for energy resource projects; to set up the E and SE Asia Network and Expert Pools on energy resource management; and to publish case studies on the application of UNFC to energy resources in E and SE Asia.

This project could be later expand to cover more types of resources, i.e., solid minerals, sustainable energy, groundwater, etc. The ultimate goal will be the setting up of the International Centre of Excellence on Sustainable Resource Management (ICE-SRM), which is a collaborative network of organisations focused on supporting SD of resources needed for development in line with the 2030 Agenda.

Due to the COVID-19 situation, the project is currently on hold and need further seeking of partners and funding. Since the project will need cooperation as much as possible from all Member Countries, CCOP TS thus encourages all Member Countries to provide support to the project or assist in identifying and facilitating CCOP TS to potential donor and/or partners. Examples of potential partners include DMR and DMF (Thailand); PETRONAS (already contacted); PetroVietnam; etc.

Progress of Ongoing CCOP Projects

1) Geoinformation Sharing Infrastructure for East and Southeast Asia (GSI) Project

The Japanese-funded CCOP Geoinformation Sharing Infrastructure for East and Southeast Asia (GSI) Project scheduled for 2015 – 2020, aims to develop new geoinformation integration and sharing system using international standards and free and open-source software among CCOP countries.

The GSI Web Portals were officially launched at the 3rd CCOP GSI International Workshop held on 18-20 September 2018 at Aseania Resort Langkawi, Malaysia. Total number of the contents on the CCOP GSI system is increasing. As of May 2020, there are more than 800 contents in the system, which can be accessible from this link, <https://ccop-gsi.org/main/>

As agreed at the 4th GSI International Workshop in Siem Reap, the new portal site “Asia-Pacific Region Geohazards Information System” has been developed by the GSI System Developer from the Geological Survey of Japan (GSJ), consisting of all the hazard-related data in the GSI system. This can be accessed from this link, <https://ccop-gsi.org/gsi/geohazard/>. More contributions about hazard-related contents such as earthquakes, volcanic eruptions, and landslides are welcome for upload to this portal site.

It is also planned to develop the “Asia-Pacific Region Georesources Information System” under this project. CCOP Member Countries’ contribution is very much welcome.

The Project encourages uploading more data on the CCOP GSI system. The target is to increase the quality and quantities of the contents and upload more than 1000 data within 2020.

As to the planned 5th GSI International Workshop in 2020, this may be carried out virtually via Zoom Meeting, considering the ongoing COVID-19 pandemic.

2) European Commission “International Network of Raw Materials Training Centres” (Intermin) Project

CCOPTS was invited by EuroGeoSurveys (EGS), The Geological Surveys of Europe, and had successfully registered itself as one of the 14 partners of the Intermin project. The project, acronym “Intermin”, aims at mapping skills and knowledge in the EU and leading counterparts in third countries, identify key knowledge gaps and emerging needs, develop roadmap for improving skills and knowledge, as well as establish common training programmes in the raw materials sectors with an ultimate goal to create a self-sustainable long-term lasting international network of training centres for professionals.

The project coordinator is Prof. Manuel Regueiro y González-Barros from the Geological Survey of Spain. The project is proposed to run for 3 years (36 months), starting from 1 Feb 2018. The project kicked-off with an official meeting in Brussel, Belgium, on 13-14 February 2018. Its estimated budget is about €1.266 million, whereby CCOP is allocated about €30.4k. There are four work packages (WP) for the project implementation (months):

WP1: International mapping of training programmes on raw materials and resources (Atlases): Month 1-12;

WP2: Raw materials sector skills, gaps and emerging knowledge needs (Gaps): Month 6-20;

WP3: Towards enhanced training programmes (Response): Months 10-30;

WP4: Developing an international network of raw materials training centres (Leverage): Month 12-36;

WP5: Communication and dissemination (Exploitation): Month 1-36;

WP6: Project Management; & WP7: Ethics requirements: Month 1-36.

The CCOPTS Director was invited to attend the kick-off meeting on the Intermin project in Brussels, Belgium during 13-14 February 2018. The meeting focused on the Financial Consortium Agreement and the work plan for the total 36 months of the project. CCOPTS Director, the representative of CCOP as a partner of this project, made a presentation on how CCOP has been doing with the MCs on similar activities. Most of the participants, from many international geoscience organizations around the world, also shared their ideas on how to work on this project. During the meeting, the CCOPTS Director and General Secretary of EGS discussed on how to work on a specific geoscience program together from 2018-2020, in which both CCOP and EGS work plan will be aligned.

The 2nd INTERMIN project meeting was held on 30-31 January 2019 in Madrid, Spain. Dr. Dhiti Tulyatid, CCOPTS Regional Expert, represented CCOP at this meeting, and gave a presentation on the Current Status of Technical and Training offered for raw materials professionals in geology and mining engineering in East and Southeast Asia Region. The Intermin project stressed, on expanding surveys to as many universities as possible in this region.

During the last year of the project, CCOP plans to develop a platform that link to all education and training institutes and organization, i.e., ISGeo (KIGAM), GSJ, CGS, universities, etc., in E and SE Asia to the INTERMIN project. This can be done through the application of IT and internet.

3) CCOP-KIGAM Unconventional Oil and Gas Resources Project Phase II: Assessment of Shale Energy Resources in Asia (UnCon Project Phase II)

The CCOP member countries have carried out an Unconventional Oil and Gas Resources Project (UnCon, phase 1) for three years from 2015 to 2017, which was supported financially and technically by KIGAM. The CCOP-KIGAM UnCon phase 1 project was a mapping project that identified potentially-prospective shale energy resource basins in the CCOP region. Forty six (46) basins were recognized from this project as potentially-prospective shale gas/oil basins. The identified basins were mapped using the GIS software, and finally published by means of USB flashdisk.

The UnCon Phase II project focuses on the calculation and assessment of the shale energy resources for the already identified potentially-prospective shale energy basins. This will enhance the knowledge of the regulatory agencies, energy research organizations and national oil companies in CCOP countries in the exploration of new frontiers of production. The UnCon Phase II Project was launched at the 10th National Coordinators Meeting and Workshop on 24-26 April 2018 at Sukosol Hotel, Bangkok, Thailand. The Goal is to create the highest possible value for society from oil and gas resources in order to improve the quality of life of the people in the CCOP Member Countries.

A total of 5 meetings/workshops were carried out during 2018-2019 held in Bangkok, Thailand; Chongqing, China; Kota Kinabalu, Malaysia; Hanoi, Vietnam; and Ulaanbaatur, Mongolia. The final meeting/workshop is planned to be held in Bali, Indonesia, in late 2020.

4) KIGAM/IS-Geo Regular Training Courses

There has been no training course organized during January – May 2020 due to the ongoing pandemic.

5) GSJ International Training Course on Practical Geological Survey Techniques 2020 - Application to Geological Disaster Mitigation, 9 - 26 June 2020, Tsukuba, Japan

This training course has been postponed indefinitely due to the ongoing COVID-19 pandemic.

The course consists three sections: 1) Practical geological survey techniques for accretionary geology; 2) Exploration and analysis techniques; and 3) Application to geological disaster mitigation.

6) CCOP-CGS Cooperation on Capacity Building on Integrated Geological Data Processing and Application (IGDP Project Phase II)

Period: 2017-2019

Financially and technically supported by the China Geological Survey (CGS) through its Development and Research Center (DRC), the phase II of the IGDP Project was initiated in 2017 with the main objective of compiling the gravity map of the CCOP Member Countries. In the process training on the use of RGIS-IGDP software developed by DRC was undertaken.

During the project period, there were 3 workshops/training organized for the CCOP Member Countries, as follows.

- Kick-off Workshop/Training, 22-24 May 2017, Beijing, China, with 18 participants.
- Second Workshop (as sub-session of the 3rd Workshop & Training Courses on Capacity Building on Marine Geoscience and Geohazards Reduction & Prevention for ASEAN Member States on 17-19 July 2018 in Guangzhou, China) with 24 participants from CCOP Member Countries
- Final Workshop (Jointly held with the China-ASEAN Marine Geoscience Aoshan Forum), 19-21 July 2019, Qingdao, China with 25 participants from Member Countries

There is limited progress in data collection and compilation during 2020 due to the COVID-19 pandemic. However some new progress in geoscience data processing and compilation software has been achieved.

The IGDP Project Leader Dr. Zhang Minghua, CGS suggested to organize an online workshop on geoscience data processing technology and software training, with a discussion on the next step of IGDP Project.

7) Compilation and Publication of a Revised “Magnetic Anomaly Map of East Asia 1:4,000,000” on CD-ROM (MAMEA) Project

The 67th CCOP Steering Committee Meeting held in Bangkok, Thailand on 4-5 November 2016 endorsed the MAMEA Project proposed by the Geological Survey of Japan. This project aims to revise the CCOP Magnetic Anomaly Map of East Asia 1:4,000,000 to fill the gaps with data available from Cambodia, Laos and Myanmar (around Thailand) or newly collected data from year 1990. The revised map would give extremely valuable information with its reliable regional geological interpretation.

Collaborative work planned for this project includes: introduction of information on existing magnetic survey data in member countries and their availability for this project; discussion of the method for collection and compilation of the magnetic data; collection of available data with their data format for digital data and/or the explanation on analogue data, and compilation of the magnetic data.

The MAMEA CD-ROM will contain magnetic data set of two-minute interval grid that covers all of the CCOP member countries (tentatively, 12°S to 46°N and 93°E to 160°E) and magnetic anomaly map image made from the grid data set.

At the IGDP-2 final workshop held in Qingdao on September 2019, Dr Takemi Ishihara, the MAMEA Project Leader informed his plan of visiting the Mineral Resources Authority (MRA) of Papua New Guinea during November 2019 to assist MRA in levelling their magnetic and gravity data. This project is working closely with the IGDP Project Phase II, and follows the same timeline in completing the data compilation.

In March 2020, CCOP TS sent out letters to request for additional data from Member Countries including China, Mongolia, Republic of Korea, Lao PDR, the Philippines and Thailand, with open requests for those who would like to provide new data to the project. CCOP TS has not received any update on new data requested. CCOP TS thus encourage Member Countries to contribute their available data to the project so that we could possibly publish the newly compiled map by the end of 2020, preferably before the 56th Annual Session in November 2020.

5) GSHP Project funded by JICA

CCOP, DMR (Department of Mineral Resources) and MISAWA Environmental Technology Co. Ltd., Japan (MISAWA) / Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology (GSJ) have initiated the Survey of introducing an energy-saving cooling system that utilizes a groundwater heat source instead of traditional air-source heat pump in the Capital Region of Bangkok. The purpose of this survey is to confirm whether the introduced system can reduce electricity consumption and can contribute to improve heat island phenomenon and mitigate global warming. The survey is a part of JICA's survey scheme "SDGs Business Model Formation Technology Survey with Private Sector". The actual implementation of the Survey will be done by MISAWA/ GSJ entrusted by and in collaboration with HCA. In the implementation survey, the TRT (Thermal Response Test) will be made at the Golden Jubilee National Geological Museum of DMR in Pathum Thani Province in order to know the underground thermal conductivity to the depth of 50m. Misawa/ GSJ will provide all TRT data and analysis to be done in Japan to DMR. MISAWA/ GSJ will transfer technology of drilling method for heat exchange, U-tube inserting work and protection of the well head.

The kick-off meeting of this Ground-Source Heat Pump was held on Friday 5 April 2019 at the Royal Thai Department of Mineral Resources, Bangkok, Thailand. DMR

exchanged views with MISAWA in cooperation with GSJ and CCOP Technical Secretariat concerning "Energy-saving Cooling System using Groundwater Heat Source Project" funded by JICA. All parties concerned confirmed to implement the survey.

The Thermal Response Test (TRT) will be conducted by MISAWA/GSJ at the Golden Jubilee National Geological Museum in order to know ground thermal conductivity to the depth of 50 m. Misawa will provide all TRT data and analysis to be done in Japan to DMR. Furthermore, MISAWA/GSJ will give simulation of operation based on the result TRT and some case study reports on energy saving system.

The project activities from July to December 2019 include: Drilling (3-10 September); TRT (2-15 October); GSHP Workshop was held as a side meeting at the 55th CCOP Annual Session, Kantary Hills Hotel, Chiang Mai, on 5 November 2019; 04:00-06:00 p.m.; The operation meeting was held at the Department of Mineral Resources on 21 January 2020 to summarize the work done and what would be ahead.; MISAWA/GSJ invited 5 Thai officers and less than 10 participants from CCOP Member Countries (own cost) to visit related sites in Japan during 26 January – 1 February 2020.

The next phase of the project is still under the consideration of JICA for further funding, possibly in September 2020. If approved, the new phase of the project will start in January 2021.

6) CCOP-KIGAM GDR Project

The 72nd CCOP Steering Committee Meeting held in March 2019 in Samui Island, Thailand approved the CCOP-KIGAM project on the establishment of a Geoscience Data Repository (GDR) platform for the CCOP Member Countries. With the goal of easy access to geoscience data for international research towards sustainable environment, GDR project's objectives are to establish a regional geoscience data repository system; to uniquely identify geoscience data using International Geo Sample Number (IGSN); to form a working group for the design and development of the GDR system; and to train the working group members in the use of the GDR system.

The initial phase of the project will run for 6 years, and plans to have an annual working group meeting. In 2019, the GDR Project Working Group has been formed, and the project's kick-off meeting was organized on 29-31 October 2019 in Bangkok, Thailand. Among the countries present at the kick-off meeting, only Japan, Mongolia, Philippines' Department of Energy and Thailand have existing geoscience sample data management system.

The GDR system will be launched in the first workshop agreed to be on 21-23 April 2020 in Phuket, Thailand. All the GDR working group members to participate the first workshop will be required to bring data to upload to the system, as well as a typical sample from their country to display at the CCOP Technical Secretariat office in Bangkok, Thailand. Due to the ongoing pandemic, this workshop has been postponed depending on the pandemic situation. Meanwhile, a Webinar on the use of the GDR system for the upload of geoscience data is planned to be held in early July 2020.

7) East Asian Geoscience and Environment Research (EAGER) Project / Ric Terman Award

The 72nd CCOP Steering Committee Meeting held in March 2019, Samui Island, Thailand approved the Geological Society of America (GSA)'s proposal through the CCOPTS to resume the EAGER Project / Ric Terman Award from 2019. The EAGER award was set up under a trust fund in the Geological Society of America (GSA) with the personal contribution of the late Dr. Maurice Terman, CCOP Honorary Advisor. There had been 12 recipients of this grant, Malaysia (2003), Japan (2004), China (2005), Korea (2006), Philippines (2007), Thailand (2009), Vietnam (2009), Indonesia (2010), Thailand (2011), Malaysia (2012), Japan (2013) and China (2015). The value of the award is up to USD 5,000.

In 2019, the call for applications for the Ric Terman Award was open to Cambodia, Lao PDR, Mongolia, Myanmar, Papua New Guinea, Singapore and Timor-Leste.

The EAGER 2019 Grant was awarded at the 55th CCOP Annual Session in Chiangmai, Thailand, November 2019 to **Mrs. Sodnom Oyungerel**, for her research proposal "The geological, geochemical and ore genesis studies of an ore field at the Tavt gold deposit in Northern Mongolia". **Mrs. Sodnom Oyungerel** is a Ph.D. candidate from Mongolia currently studying in Seoul National University, Republic of Korea.

8) CCOP-IERI Internship Program

The 73rd CCOP Steering Committee Meeting held in November 2019, Chiangmai, Thailand accepted the International Environmental Research Institute (IERI) as CCOP's Cooperating Organization. IERI is based in Gwangju Institute of Science and Technology (GIST), Republic of Korea.

IERI is interested to collaborate with CCOP on the following:

- Providing GIST postgraduate scholarships (Masters and PhD, in the title of CCOP-GIST scholarship)
- Providing GIST postgrad interns to CCOP (1 person, 3 months)
- Accepting researchers, government officers from CCOP Member Countries as IERI interns (5-10 persons, 3-6 month)
- Opportunity of GIST-supported Research Project by Young Earth Scientists from CCOP region (2,000 USD per year)

The CCOP-IERI Internship Program was initiated from 2019, and to date the following successfully got the internship at IERI.

Internship Period	Name	Organization/Country
Sep – Dec 2019	Ms. Triwigati, Purnaning Tuwuh	Indonesia
Feb – Jun 2020	Dr. Manussawee Hengsuwan	Department of Groundwater Resources (DGR), Thailand
Aug – Dec 2020	Ms. Nouvarat Prinpreecha	Department of Mineral Resources (DMR), Thailand
	Ms. Tseyenkhand Punsantsogvoo	Institute of Geography and Geoecology, Mongolian Academy of Sciences, Mongolia
	Ms. Nguyen Quynh Anh	Vietnam Institute of Geosciences and Mineral Resources (VIGMR), Vietnam

9) CCOP-GSJ Groundwater Project Phase IV

The CCOP-GSJ Groundwater Project has been extended to Phase IV in 2019. This project is financially and technically supported by the Geological Survey of Japan. The plan for Phase IV includes the following:

- Database advancement, Data upload by each Member Country (MC).
- Addition of data related to pollution problems in MCs of Public Policy Group
- Field survey and discussion on solving groundwater problems in MCs of PP Group. What kind of GW problems exists should be prepared before the field survey and discussion.
- To continue Ground Source Heat Pump sub-Project

The Phase IV kick-off meeting was held on 2-4 December 2019 in Bali, Indonesia, hosted by the Geological Agency of Indonesia. Deliverables until the next meeting in Naypyitaw, Myanmar in early 2021 include the following:

- Update DB1 countries (China, Indonesia, Japan, Korea, Malaysia, Philippines, Thailand and Vietnam) data to include the additional data items and bring the updated excel file in the next meeting in Naypyitaw for upload to the GSi Groundwater Portal, <https://ccop-gsi.org/gsi/groundwater/index.php> with the guidance of the GSi Project Coordinator who will be invited to the next meeting.
- Vietnam will provide additional groundwater data from South Vietnam in the next meeting.
- China will discuss with China Geological Survey (CGS) which published data on groundwater that can be shared to this project and communicate with the CCOP Technical Secretariat for update before the next meeting in Naypyitaw.
- DB2 countries (Cambodia, Lao PDR, Mongolia, Myanmar and Papua New Guinea) will collect groundwater data on their existing monitoring wells and bring the excel file to the next meeting in Naypyitaw for upload to the GSi GW Portal.
- Mongolia will discuss with Mineral Resources and Petroleum Authority of Mongolia (MRPAM) on the groundwater data that they can provide, and will feedback to the CCOPTS before the next meeting in Naypyitaw.
- All countries will bring respective country hydrogeological map (if available) in shapefile format to Naypyitaw for upload to the GSi Groundwater Portal.
- Publish report of the Phase IV Kick-off Meeting

LIST OF ANNEXES

Annex I : ACTIONS TAKEN ON THE RECOMMENDATIONS OF THE ADVISORY GROUP MEETING AT THE 55TH ANNUAL SESSION AND DECISIONS BY THE 73RD CCOP STEERING COMMITTEE MEETING

Annex II : AUDIT REPORT FOR 1 JANUARY – 31 DECEMBER 2019

ANNEX I

ACTIONS TAKEN ON DECISIONS OF PAST CCOP STEERING COMMITTEE MEETINGS AND RECOMMENDATIONS OF ADVISORY GROUP MEETING AT THE CCOP ANNUAL SESSION

(as of 15 June 2020)

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
DECISIONS OF THE 73RD CCOP STEERING COMMITTEE MEETING, CHIANGMAI, THAILAND			
73SC/2/01	The China Delegation stated that China will do its utmost in facilitating cooperation between China Geological Survey (CGS) and CCOP Member Countries on marine geology, coastal geology, geo-hazard, etc.	QIMG try to launch new projects on Marine Geology	
73SC/2/02	The Indonesia Delegation appreciated CCOPTS efforts in promoting CCOP activities to other countries and organizations. The Indonesia Delegation proposed a pilot project on urban geology of Member Countries' cities. The Meeting agreed to formulate a good proposal together and CCOPTS will approach UN-ESCAP by using the final proposal from MCs.	CCOPTS contacted UN ESCAP and try to launch new collaborative projects with UN ESCAP on Urban Geology	
73SC/2/03	The Korea Delegation informed that KIGAM will host a project planning workshop on urban geology for China, Japan, Korea, Geological Survey of Finland (GTK) and the British Geological Survey (BGS) this December 2019.	CCOPTS is monitoring this event and prepare proposal on Urban Geology together with CCs and MCs	
73SC/3/01	China Delegation informed that China Geological Survey (CGS) would seek opportunity to sign MoU with YES Network, in order to expand the possibility of nourishing young geoscientists, especially under the framework of CCOP-ASEAN-China Geoscience Cooperation Centre.	In preparation	
73SC/3/02	The Meeting endorsed Indonesia Delegation's proposal of including in the CCOP Workplan 2020 an initiative for climate change directly or indirectly instigated by geological conditions.	CCOPTS include Climate Change item into new CCOP Strategic Plan for 2021~2025	

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
73SC/3/03	The Representative from Myanmar requested to include activities on the surface and groundwater resources in Myanmar, especially on groundwater and aquifer contamination pollution in Ayeyarwady River and its catchments and deltaic areas due to the mining and anthropogenic activities. Ayeyarwady River is a major source of water in Myanmar and research works on groundwater and surface water pollution and contamination including monitoring and management of this water resource is vital for Myanmar. Hence, the Myanmar Representative encouraged and requested CCOP for relevant project with Member Countries such as those of CCOP-KIGAM Groundwater Project; Greater Mekong Transboundary Aquifer and CCOP-GSJ Groundwater Project: Database of Groundwater Resources.	CCOPTS try to launch new project on Groundwater targeting AKCF (ASEAN Korean Cooperation Fund) and already submitted proposal to AKPMT (ASEAN Korea Project Management Team).	
73SC/5/01	The Lao PDR delegation requested CCOPTS to send an official letter again for the Member cash contribution.	Done	- On 21 November 2019, CCOPTS sent an official letter of Member cash contribution for 2019 to Permanent Representative of Lao PDR.
73SC/5/02	The China Delegation expressed support to the 22 nd SFC Meeting's recommendation for CCOPTS to issue official letter to relevant Member Countries' Government agencies regarding the increase of Member Annual Cash Contribution.	Done	- On 25 November 2019, CCOPTS sent an official letter to the Permanent Representatives of Member Countries to CCOP; China, Republic of Korea, Malaysia, Philippines, Thailand and Vietnam for an increase of their Annual Cash Contribution.
73SC/5/03	Regarding Malaysia Delegation 's proposal in waiving the arrears of the annual cash contribution of Papua New Guinea and Timor-Leste, the Meeting acknowledged the importance of both countries' active participation in CCOP and unanimously expressed the willingness to consider this proposal on a case to case basis.	Done Papua New Guinea arrears; Year 2016, USD 25,000 Year 2017, USD 25,000 Year 2018, USD 25,000 Timor-Leste arrears; Year 2017, USD 10,000 Year 2018, USD 10,000	- On 25 November 2019, CCOPTS sent an official letter to Papua New Guinea and Timor-Leste. - Papua New Guinea for waiving the arrears of the 2016-2018 annual cash contribution. - Timor-Leste for waiving the arrears of the 2017-2018 annual cash contribution.

(Annex I: Actions Taken on the Decisions of Past CCOP Steering Committee Meetings and Recommendations of the Advisory Group Meeting at the CCOP Annual Session)

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
73SC/5/04	With reference to the previous Steering Committee Meeting, the Thailand Delegation informed the Meeting that Thailand tried to increase the member annual cash contribution from USD 40,000 to USD 50,000 in 2021. Unfortunately, the Thai Government did not approve the budget proposal. However, the Thailand Delegation will inform the progress in the next Steering Committee Meeting.	In preparation	Thailand Delegation will inform the progress at the 74 th Steering Committee Meeting.
73SC/6/01	The Malaysia Delegation commented that the recommendations of the CCOP Advisory Group are relevant to the current world environment and to the long term sustainability of CCOP. Malaysia Delegation encouraged all Member Countries to participate actively in realizing the recommendations.	CCOPTS try to share information on CCOP Advisory Group to all MCs.	
73SC/7/01	<p>Cambodia Delegation informed the Meeting that Cambodia is pleased to host the 74th CCOP Steering Committee Meeting, planned to be held on 16-19 March 2020 at Sokha Angkor Resort back to back with a CCOP Strategic Planning Workshop in Siem Reap, Cambodia. The Meeting endorsed the proposed schedule as follows:</p> <p>16 March 2020 : CCOP Strategic Planning Workshop 17 March (am) : CCOP Strategic Planning Workshop (pm) : 23rd CCOP Select Finance Committee Meeting : ASEAN Forum for Georesources and Geoinformation 18-19 March: : 74th CCOP Steering Committee Meeting</p>	<p>The First Meeting of the Working Group for the CCOP Strategic Plan 2021-2025 was held on 20 May via Zoom Meeting.</p> <p>The 74th CCOP Steering Committee Meeting will be held on 24 June 2020 via Zoom Meeting.</p>	Changes of the schedule and venue are due to the COVID-19 pandemic.
73SC/7/02	<p>The Indonesian Delegation informed the Meeting that the 56th CCOP Annual Session (56AS) and 75th CCOP Steering Committee Meeting (75SC) will be held on 1-7 November 2020, Sheraton Senggigi Beach Resort, in Lombok Island, West Nusa Tenggara, Indonesia. The meeting endorsed the proposed schedule as follows:</p> <p>Sunday, 1 Nov 2020 :24th SFC Meeting / AG Meeting Monday, 2 Nov :56AS Day 1 Tuesday, 3 Nov :56AS Day 2 / Thematic Session Wednesday, 4 Nov :Thematic Session / Adoption of 56AS report Thursday, 5 Nov :Field Trip Friday, 6 Nov :75SC Day 1</p>	In preparation	Progress of preparations will be reported at the 74 th SC Meeting.

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
	Saturday, 7 Nov :75SC Day 2		
73SC/7/03	<p>For the 57th CCOP Annual Sesssion and the 77th CCOP Steering Committee Meeting, the Vietnam Delegation reiterated its offer of hosting it in October/November 2021, and requested an official letter from the CCOP Technical Secretariat regarding this. Vietnam was supposed to host the 55th CCOP Annual Session and 73rd CCOP Steering Committee Meeting in 2019, however due to unprecedented circumstances Vietnam couldn't host it, and Thailand hosted instead. The following countries offered hosting future AS & SC.</p> <ul style="list-style-type: none"> • March 2021, 76SC – Malaysia • March 2022, 78SC – Mongolia • November 2022, 58AS & 79SC – Malaysia • November 2023, 59AS & 81SC – Lao PDR 	Done	On 22 November 2019, CCOPTS sent an official letter to Permanent Representative of Vietnam to CCOP on hosting of CCOP Meetings, Year 2021, the 57th CCOP Annual Session and the 77th CCOP Steering Committee Meeting.
73SC/8/01	<p>Consideration of the application of new CCOP Cooperating Organization</p> <p>The Meeting accepted the International Environmental Research Institute (IERI) as CCOP's Cooperating Organization with the following comments.</p> <p>The Korea Delegation expressed support for IERI to be a CCOP Cooperating Organization. The Korea Delegation recommended CCOPTS to suggest to IERI to share any relevant information through and with KIGAM, as the office of the Permanent Representative of Korea to CCOP.</p> <p>The Meeting tasked the CCOPTS to prepare the MoU between CCOP and IERI for signing at the 74th CCOP Steering Committee Meeting scheduled in March 2020 in Siem Reap, Cambodia.</p>	In preparation for upcoming off line meeting	
73SC/8/02	<p>Propose service extension of CCOPTS Regional Expert</p> <p>The Meeting endorsed the CCOPTS Director's proposal of extending the service of Dr. Dhiti Tulyatid as Regional Expert, for another two-year term, from 1 May 2020 to 30 April 2022.</p>	Done	The Agreement of Service of Dr. Dhiti Tulyatid as Reginal Expert, term 1 May 2020 - 30 April 2022 has renewed.

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
73SC/8/03	<p>Election of Chairperson and Vice-Chairperson of CCOP Steering Committee (Term: 2020-2021)</p> <p>As nominated and seconded by Japan and Korea Delegations respectively, the Meeting elected the Permanent Representative of Malaysia to CCOP, Datuk Shahar Effendi bin Abdullah Azizi to continue his service as Chairperson of the CCOP Steering Committee for another two-year term, 2020-2021, and the Permanent Representative of Thailand to CCOP, Dr. Sommai Techawan, as the Vice-Chairperson. Due to conflict of interest, the CCOPTS Director was given the authority to chair the election process.</p>	Done	The Meeting elected the Permanent Representative of Malaysia to CCOP, Datuk Shahar Effendi bin Abdullah Azizi to continue his service as Chairperson of the CCOP Steering Committee for another two-year term, 2020-2021, and the Permanent Representative of Thailand to CCOP, Dr. Sommai Techawan, as the Vice-Chairperson.
73SC/8/04	<p>GSJ's International Training Course on Practical Geological Survey Techniques 2020</p> <p>The Japan Delegation announced that the 2020 GSJ International Training Course on Practical Geological Survey Techniques will be held on 9-26 June 2020 at the Geological Survey of Japan, Tsukuba, Japan.</p>	Postponed due to COVID-19 Pandemic	
73SC/8/05	<p>Trilateral GeoSummit</p> <p>The Japan Delegation informed that the Trilateral GeoSummit consists of 3 countries, China, Japan and Republic Korea. A business meeting of the Trilateral GeoSummit was held on 6 November 2019 in Chiangmai, Thailand during the 55th CCOP Annual Session. The heads of the three institutes agreed to support Coastal Geology and GIS (Geoscience Information System). The following activities are planned:</p> <p>Coastal Geology:</p> <ul style="list-style-type: none"> • Workshop at 17th AOGS-KGU Conference at Hongcheon, Korea on 28 June – 4 July 2020 • Workshop at GeoHub at Qingdao, China in 2021 <p>GIS:</p> <ul style="list-style-type: none"> • Joint workshop in Korea in 2020, China in 2021, Japan in 2022 	Postponed due to COVID-19 Pandemic	

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
73SC/8/06	Others The Thailand Delegation expressed intention of nominating the former CCOPTS Director, Dr. Adichat Surinkum as CCOP Honorary Adviser and official proposal will be submitted at the 74th CCOP Steering Committee Meeting in Siem Reap, Cambodia.	In preparation	An official proposal nominating the former CCOPTS Director, Dr. Adichat Surinkum as CCOP Honorary Adviser will be submitted at the 74th CCOP Steering Committee Meeting in Siem Reap, Cambodia.
RECOMMENDATIONS OF ADVISORY GROUP MEETING AT THE 54TH CCOP ANNUAL SESSION, CHIANGMAI, THAILAND			
73SC/	Ensure sustainability of CCOP: <ul style="list-style-type: none"> - AG advises CCOP SC to continue and further strengthen their efforts in making CCOP more visible among MCs, CCs and COs. - AG advises CCOP SC to undertake a review of the nature of cooperation and opportunities for future projects and funding with CCs. - AG advises CCOP SC to undertake a review of the COs and the status of the existing MoUs and consider appropriate action. 	CCOPTS renew several representatives of CCs and COs	
73SC/	In order to align CCOP’s strategy and work plan to global initiatives including the 2030 Agenda and the UN Sustainable Development Goals (SDGs), Sendai Framework for Disaster Risk Reduction, Paris Agreement on Climate Change Mitigation, etc., the AG recommends that: <ul style="list-style-type: none"> - SC should request from MCs information on national geoscience activities related to the SDGs. - CCOP should revise the CCOP’s webpages to reflect MCs’ activities and programmes in support of the SDGs. 	CCOPTS includes items of UN SDGs and other international agreements into new CCOP Strategic Plan 2021-2025.	
73SC/	The AG recognizes the change in funding from CCs. New opportunities for funding should be looked for. <ul style="list-style-type: none"> - The CCOP SC is advised to consider ways in which MCs and CCs establish partnerships to seek funding in support of joint activities. - The CCOP SC should consider to raise CCOP’s role as a professional geoscience network that supports the development of international cooperation and the search for funding opportunities. 	CCOPTS try to find new funding sources, such as AKCF, ADB and World Bank	CCOPTS already submitted proposals to AKCF on groundwater and ADB on UNFC

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
73SC/	<p>The AG recognizes that a new Strategic Plan (2021-2025) should be ready by the end of 2020.</p> <p>The AG recommends:</p> <ul style="list-style-type: none"> - CCOP SC should agree on the methodology for developing the Strategic Plan and ensure that all MCs contribute. <p>CCOP SC should undertake a review and lessons learned from the current Strategic Plan to guide the new plan.</p> <ul style="list-style-type: none"> - CCOP SC should undertake a review of other coordinating organizations' strategic plans to gain understanding of best approach. - CCOP SC should ensure that the Strategic Plan is aligned with international initiatives (SDGs). - CCOP SC should consider seeking support from experienced MCs or CCs and potentially use professional assistance in compiling the new Strategic Plan. <p>The AG remains available to support CCOP SC in their endeavors to optimize the up-coming Strategic Plan.</p>	<p>CCOPTS set up working group of CCOP Strategic Plan 2021-2025 and drafted 2nd version of new Strategic Plan</p>	<p>Include some activities??</p>
73SC/	<p>Election of AG Chair and Vice-Chair (1 Jan – 31 Dec 2020)</p> <p>Chair: Ioannis Abatzis, Representative of Denmark to CCOP</p> <p>Vice-Chair: Dato' Yunus Abdul Razak, Honorary Adviser</p>	<p>Mr. Ioannis Abatzis and Dato' Yunus Abdul Razak continue their term as Chair and Vice-Chair of CCOP AG in 2020.</p>	
73SC/	<p>Any Other Business</p> <p>Editor-in-Chief:</p> <ul style="list-style-type: none"> - The AG has nominated Mr Chen Shick Pei; and Dr Martin Smith to jointly operate as the Editor-in-Chief for CCOP publications. - The AG would like to extend its sincere appreciation to Dr Anthony Reedman for his long-term contribution to CCOP and for him being the Editor-in-Chief for CCOP publications for the last many years. 	<p>Done</p> <p>Done</p>	<ul style="list-style-type: none"> - Editor-in-Chief for CCOP Publications; Mr. Chen Shick Pei and Dr. Martin Smith. - CCOPTS also would like to take this opportunity to convey our thanks and appreciation to Dr. Anthony Reedman. His contributions to CCOP are greatly appreciated.

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
DECISIONS OF THE 72ND CCOP STEERING COMMITTEE MEETING, SAMUI ISLAND, THAILAND			
72SC/3/02	<p>The representative of PNG expressed willingness in cooperating geohazard activities of CCOP. PNG can assist in areas of monitoring, assessment and reporting on a range of geological hazards.</p> <p>He further added that PNG would like to cooperate on issues relating to small-scale mining, particularly for gold. PNG has a small-scale mining training center that was established through a World Bank Project and the experience gained through this development is worth sharing.</p>		
72SC/3/03	<p>Thailand Delegation recorded their appreciation to Malaysia, Japan, China and Republic of Korea for their advice and contribution to the success of Satun Global Geopark. Thailand is setting a target of having 4 national geoparks and one more UNESCO global geopark by 2022 and is pleased to cooperate with CCOP Member Countries in knowledge and experience sharing of geopark development.</p> <p>Thailand's head of delegation further mentioned that he had an opportunity to discuss with the Governor of Ubon Ratchathani Province where Phachan-Samphanbok is situated at the Thailand-Lao PDR border. He was given a suggestion of developing transboundary geopark. In this regard Thailand is willing to work with Lao PDR in developing a transboundary geopark.</p>	In preparation	
72SC/5/01	<p>The Representative of PNG informed the Meeting that efforts have already been initiated in following-up PNG's arrears on their annual cash contribution to CCOP. They will update the CCOPTS on the progress, and will request documentation if needed.</p>	<p>CCOPTS sent a letter for 2019 annual cash contribution to PNG on 8 January 2019, and reminding letter for 2016, 2017, and 2018 annual cash contribution to PNG on 12 July 2019.</p>	<p>CCOPTS was informed by the Representative of PNG that, PNG has informed Department of Treasury and Finance, to the issue of outstanding CCOP membership contributions, all of the correspondence re: CCOP Annual Cash Contributions (for 2016, 2017, 2018 and 2019) was provided to Department of Treasury.</p>

(Annex I: Actions Taken on the Decisions of Past CCOP Steering Committee Meetings and Recommendations of the Advisory Group Meeting at the CCOP Annual Session)

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
72SC/7/02	<p>The Meeting endorsed the following initiatives, and tasked the CCOPTS to work closely with the respective proponents in the implementation.</p> <ul style="list-style-type: none"> • Cooperation of CCOP and China-ASEAN Geosciences Cooperation Center • Working Group in Southeast Asia on IUGS Deep-time Digital Earth (DDE) Big Science Program by IUGS 	In progress	A workshop will be conducted out in late November 2019.

DECISIONS OF THE 71ST CCOP STEERING COMMITTEE MEETING, BUSAN, REPUBLIC OF KOREA

RECOMMENDATIONS OF ADVISORY GROUP MEETING AT THE 54TH CCOP ANNUAL SESSION, BUSAN, REPUBLIC OF KOREA

SC#/ Agenda # / Decision #	SC Decisions	Actions Taken / Status	Follow-up Actions / Remarks
71SC/6/01	<p>Ensure sustainability of CCOP</p> <p>AG advises CCOP SC to continue and further strengthen their efforts in making CCOP more visible among MCs, CCs and COs.</p>	In progress	
71SC/6/02	Update CCs and COs on CCOP activities regularly	In progress	
71SC/6/03	The AG noted the frequent change of PRs and recommends that the SC finds mechanisms for ensuring the awareness about CCOP.	In progress	
71SC/6/04	<p>Align CCOP's strategy and work plan to global conventions such as Sustainable Development Goals (SDGs), Sendai Framework for Disaster Risk Reduction, Paris Agreement, etc.</p> <p>MCs' activities should be related to SDGs, Sendai Framework, etc.</p> <p>CCOP to assist Member Countries in carrying out the multilateral cooperation with CCs & COs.</p>	In progress	
71SC/6/05	The AG noted that some MCs benefit from having established a National CCOP Committee.	In progress	

	The AG recommends the CCOP SC to investigate possible ways for enhancing the awareness of CCOP within the MCs.		
71SC/6/06	The AG is aware of the different levels of needs among MCs. The CCOP SC is advised that during the preparation of future work plans to target and ensure that there is a balanced benefit to all MCs.	In progress	
71SC/6/08	The Advisory Group underlines the importance of active participation of each Member Country at the Steering Committee Meetings.	In progress	

ANNEX II

AUDIT REPORT FOR JANUARY – DECEMBER 2019

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)**

**REPORT AND FINANCIAL STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2019**

INDEPENDENT AUDITOR'S REPORT

To THE STEERING COMMITTEE

COORDINATING COMMITTEE FOR GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)

Opinion

We have audited the financial statement of Coordinating Committee for Geoscience Programmes in East and Southeast Asia for CCOP Technical Secretariat (CCOP), which comprise the statement of assets, liabilities and fund balances as at December 31, 2019 and the statement of revenues and expenditures for the year then ended and a summary of significant accounting policies and other explanatory information (together "the financial statement").

In our opinion, the financial statement of the CCOP for the year ended December 31, 2019 are prepared in all material respects, in accordance with the cash receipts and disbursements basis of accounting described in Note 2.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the CCOP in accordance with the ethical requirements that are relevant to our audit of the financial statements in jurisdiction, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Basis of Accounting and Restriction on Distribution and Use

We draw attention to Note 2 to the financial statements, which describes the basis of accounting. The financial statements are prepared to provide information to CCOP. As a result, the statements may not be suitable for another purpose. Our report is intended solely for CCOP and should not be distributed to or used by parties other than CCOP. Our opinion is not modified in respect of this matter.

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Responsibilities of Management for the Financial Statements

Management is responsible for the preparation of the financial statement in accordance with the cash receipts and disbursements basis of accounting described in note 2, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the CCOP's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless management either intends to liquidate the CCOP or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the CCOP's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

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• Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

The engagement partner responsible for the audit resulting in this independent auditor's report is Miss Potjanarat Siripipat.

(Miss Potjanarat Siripipat)
Certified Public Accountant
Registration No. 9012

Dharmniti Auditing Company Limited
Bangkok, Thailand
February 21, 2020

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
STATEMENT OF ASSETS, LIABILITIES AND FUND BALANCES
AS AT DECEMBER 31, 2019**

	Note	BAHT A/C		USD A/C	TOTAL
		(THB)	(USD)	(USD)	(USD)
ASSETS					
CASH AT BANKS					
Cash in hand (petty cash)		10,000.00	331.78	-	331.78
USD savings account		-	-	589,802.70	589,802.70
USD fixed account		-	-	298,905.96	298,905.96
Baht current account		300,004.60	9,953.70	-	9,953.70
Baht savings account		244,442.23	8,110.23	-	8,110.23
Baht fixed account		16,223.35	538.27	-	538.27
Total cash at banks		570,670.18	18,933.98	888,708.66	907,642.64
OTHER CURRENT ASSETS					
Advance	3	177,135.00	5,877.07	-	5,877.07
Other receivable		15,262.15	506.37	-	506.37
Total other current assets		192,397.15	6,383.44	-	6,383.44
FIXED ASSETS - EQUIPMENT	4	181,363.83	6,017.39	-	6,017.39
TOTAL ASSETS		944,431.16	31,334.81	888,708.66	920,043.47
LIABILITIES AND FUND BALANCES					
CURRENT LIABILITIES					
Others					
Withholding tax payable		1,165.88	38.68	-	38.68
Personal income tax payable		13,668.20	453.49	-	453.49
Advance from KIGAM promotion booth as promote		(96,971.30)	(3,217.36)	3,656.89	439.53
TOTAL LIABILITIES		(82,137.22)	(2,725.19)	3,656.89	931.70
FUND BALANCES					
OPERATING FUND					
B/F		7,827,651.48	230,083.93	606,816.31	836,900.24
Revenues over (under) expenditures		(2,808,670.32)	(87,766.16)	102,892.41	15,126.25
Transfer money from USD A/C to Baht A/C		5,214,983.93	170,373.93	(170,373.93)	-
C/F		10,233,965.09	312,691.70	539,334.79	852,026.49
OTHER FUND					
BGR-Geo-risk Workshop		(1,491,646.32)	(44,167.79)	77,024.10	32,856.31
KIGAM-Technical Workshop		(1,667,701.83)	(51,014.51)	79,415.59	28,401.08
KIGAM-Unconventional Oil & Gas Project	5	(4,693,051.40)	(139,091.33)	138,422.58	(668.75)
IEP GRAND		(96,344.00)	(2,765.66)	2,765.66	-
INTERMIN Project		(204,520.00)	(6,642.42)	11,270.86	4,628.44
KIGAM-GDR		(888,062.59)	(29,464.58)	30,062.35	597.77
KIGAM-GTC		(223,894.16)	(7,403.91)	8,674.34	1,270.43
PTT&SCG FOR UNFC		57,823.59	1,918.50	(1,918.50)	-
Total other fund		(9,207,396.71)	(278,631.70)	345,716.98	67,085.28
TOTAL FUND BALANCES		1,026,568.38	34,060.00	885,051.77	919,111.77
TOTAL LIABILITIES AND FUND BALANCES		944,431.16	31,334.81	888,708.66	920,043.47

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
STATEMENT OF REVENUES AND EXPENDITURES
FOR THE YEAR ENDED DECEMBER 31, 2019**

	Note	BAHT A/C		USD A/C	TOTAL
		(THB)	(USD)	(USD)	(USD)
REVENUES					
Member countries' contributions		1,301,600.00	40,000.00	385,000.00	425,000.00
Interest earned		1,422.14	46.41	1,334.26	1,380.67
Revenue from project management		13,187.78	419.59	36,171.04	36,590.63
Miscellaneous Income		54,500.00	1,734.10	855.44	2,589.54
Gain on exchange rate		-	88.27	-	88.27
Unrealized gain on exchange rate		-	2,848.57	-	2,848.57
TOTAL REVENUES		1,370,709.92	45,136.94	423,360.74	468,497.68
EXPENDITURES					
Personnel expenses		535,917.17	17,023.56	281,213.72	298,237.28
Meeting/official travel expenses		2,136,961.75	68,645.21	32,544.93	101,190.14
General administration expenses		1,280,283.33	41,263.56	6,499.68	47,763.24
Special expenditures		90,198.99	2,902.38	-	2,902.38
Publication and information expenses		85,332.00	2,715.07	-	2,715.07
Technical program expenses		50,687.00	1,605.18	210.00	1,815.18
TOTAL EXPENDITURES		4,179,380.24	134,154.96	320,468.33	454,623.29
		(2,808,670.32)	(89,018.02)	102,892.41	13,874.39
GAIN (LOSS) ON CONVERSION OF CURRENCIES		-	1,251.86	-	1,251.86
REVENUES OVER (UNDER) EXPENDITURES		(2,808,670.32)	(87,766.16)	102,892.41	15,126.25

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
NOTES TO THE FINANCIAL STATEMENT
AS AT DECEMBER 31, 2019**

1. GENERAL

CCOP is the unit operative as a non-profit making, an intergovernmental organization created by virtue of and under the Memorandum of Understanding of March 25, 1987 entered into among the governments of member countries, assisted by cooperating countries and international organization. The principal activities are to promote and cooperate in the planning and implementation of joint mineral prospecting programmes and research in Asian offshore and geologically related areas of the member countries.

2. BASIS OF ACCOUNTING

2.1 Basis of preparation of financial statement

The financial statement are covered solely for the activities of COOP's Technical Secretariat, which does not include other project activities managed by CCOP's Technical Secretariat. CCOP shall directly charge these technical secretarial services to such projects at the agreed rate by recording as revenue under the account name "revenue from project management".

2.2 The financial statement has been prepared on receipts and disbursements basis.

2.3 Fixed assets - equipment

Equipment are stated at cost. Depreciation is calculated by the straight-line method, based on the estimated useful lives of 5 years.

Fixed assets are recorded accordingly to the Financial Code of CCOP section 22 "property records".

Equipment which their costs are more than THB 30,000 or USD 1,000 and their estimated useful lives are equal or more than 3 years, are recorded as fixed assets. However, equipment which their cost less than THB 30,000 or USD 1,000 are recorded as expenses of respective project at the time of purchase.

Since 2001, equipments of CCOP Technical Secretariat which their costs are more than THB 1,000 are recorded as fixed assets.

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
NOTES TO THE FINANCIAL STATEMENT (CONT.)
AS AT DECEMBER 31, 2019**

2.4 Exchange of currencies

Transactions and conversions of currencies are practiced accordingly to the Financial Code of CCOP section 27 “conversion of currencies”.

Balances of assets and liabilities in Thai Baht outstanding at the end of period are converted into US Dollar at CCOP’s rates of exchange which were obtained from United Nation’s operational rates at the rate of Baht 32.54/US Dollar. Gain or loss on conversion of currencies are recorded under other income or other expenses.

Income statement recorded in Thai Baht is converted into US Dollar at the current rates of exchange which are based on monthly basis as following :

<u>Months of the year 2019</u>	<u>Baht = 1 USD</u>
January	32.54
February	31.41
March	31.43
April	31.88
May	31.95
June	30.79
July	30.79
August	30.81
September	30.63
October	30.65
November	30.24
December	30.14

3. CASH ADVANCE

Cash advance of CCOP Technical Secretariat as at December 31, 2019, in the amount of USD 5,877.07 are consisted of :

	<u>Amount</u>	
	<u>BAHT</u>	<u>USD</u>
1. Bottles drinking water deposit	1,200.00	39.81
2. Advanced payment made to K.A.I Printing Ltd. for CCOP THEMAICS BOOK	175,935.00	5,837.26
	<u>177,135.00</u>	<u>5,877.07</u>

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
NOTES TO THE FINANCIAL STATEMENT (CONT.)
AS AT DECEMBER 31, 2019**

4. FIXED ASSETS - EQUIPMENT

Equipment consisted of :-

	BAHT			USD	
	As at 31 Dec. 18	Addition	Disposal	As at 31 Dec. 19	As at 31 Dec. 19
<u>Cost</u>					
Office equipment	4,598,377.25	82,421.98	(5,990.00)	4,674,809.23	155,103.16
Furniture and Fixture	931,100.00	-	-	931,100.00	30,892.50
Building improvement	969,473.80	-	-	969,473.80	32,165.69
Vehicle	1,555,500.00	-	-	1,555,500.00	51,609.16
Total	<u>8,054,451.05</u>	<u>82,421.98</u>	<u>(5,990.00)</u>	<u>8,130,883.03</u>	<u>269,770.51</u>
<u>Accumulated depreciation</u>					
Office equipment	(4,441,765.41)	(57,670.99)	5,990.00	(4,493,446.40)	(149,085.81)
Furniture and Fixture	(931,100.00)	-	-	(931,100.00)	(30,892.50)
Building improvement	(969,473.80)	-	-	(969,473.80)	(32,165.69)
Vehicle	(1,555,499.00)	-	-	(1,555,499.00)	(51,609.12)
Total	<u>(7,897,838.21)</u>	<u>(57,670.99)</u>	<u>5,990.00</u>	<u>(7,949,519.20)</u>	<u>(263,753.12)</u>
Equipment - net	<u>156,612.84</u>			<u>181,363.83</u>	<u>6,017.39</u>

5. CCOP-KIGAM UNCONVENTIONAL OIL AND GAS PROJECT

The CCOP-KIGAM Unconventional Oil and Gas Project will enhance the knowledge of the regulatory agencies, energy research organizations and national oil companies in CCOP countries in the exploration of new frontiers of oil and gas resources and new ways to safely make use of the vast domestic gas reserves in the member countries.

The Project implementation is designed to sustain the experience, technology transfer and institution capacity building carried out in previous capacity building projects in CCOP. This is also consistent with the aspiration of the Member Countries for a sustainable development of energy resources and energy security. Hence, the results and experiences derived from the previous projects constitute an important basis for the CCOP-KIGAM Unconventional Oil and Gas Project.

This project is made and entered into as of March 1, 2015 between Korea Institute of Geoscience and Mineral Resources (KIGAM) and The Coordinating Committee for Geoscience Programs in East and Southeast Asia (CCOP).

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
NOTES TO THE FINANCIAL STATEMENT (CONT.)**

December 31, 2019

The total amount of project of Korean Won 920,000,000 for 4 years as follow;

- 1st year (2015) : Korean Won 230,000,000
- 2nd year (2016) : Korean Won 230,000,000
- 3rd year (2017) : Korean Won 230,000,000
- 4th year (2018) : Korean Won 230,000,000

As at March 1, 2016, there was an amendment to the agreement for the sponsor fund year 2 (2016) from Korean Won 230,000,000 to Korean Won 90,000,000

As at March 1, 2017, there was an amendment to the agreement for the sponsor fund year 3 (2017) from Korean Won 230,000,000 to Korean Won 72,700,000

As at March 1, 2018, there was an amendment to the agreement for the sponsor fund year 4 (2018) from Korean Won 230,000,000 to Korean Won 60,000,000

As at July 10, 2018, CCOP entered into consignment research agreement with Korea National Oil Corporation (KNOC), Republic of Korea to the agreement for the sponsor fund year 4 (2018) Korea Won 50,000,000

As at April 1, 2019, CCOP entered into consignment research agreement with Korea Institute of Geoscience and Mineral Resources for the sponsor fund amounted Korea Won 70,000,000

The project had received the fund transfer from the KIGAM and these amount were accounted for in US Dollars account base on the Siam Commercial Bank, Thailand's exchange rate as following :

Installment	Transaction date	Amount (WON)	Amount (USD)	CCOP's Management fee (10%) (USD)
1 st Installment	March 26, 2015	115,000,000.00	103,515.01	10,351.50
2 nd Installment	December 8, 2015	115,000,000.00	97,049.69	9,704.97
3 rd Installment	March 15, 2016	45,000,000.00	37,564.80	3,756.48
4 th Installment	August 2, 2016	45,000,000.00	39,682.54	3,968.25
5 th Installment	March 20, 2017	36,350,000.00	31,913.40	3,191.34
6 th Installment	April 14, 2017	36,350,000.00	32,214.04	3,221.40
7 th Installment	March 22, 2018	27,272,727.00	25,240.84	2,524.08
8 th Installment	August 21, 2018	25,000,000.00	22,051.69	2,205.17
9 th Installment	December 6, 2018	27,272,727.00	24,328.71	2,432.87
10 th Installment	Jan 3, 2019	25,000,000.00	22,341.38	2,234.14
11 th Installment	April 12, 2019	35,000,000.00	30,412.17	3,041.22
12 th Installment	Nov 26, 2019	35,000,000.00	29,545.34	2,954.53
Grant Total		567,245,454.00	495,859.61	49,585.95

The management fee which is charged by CCOP is Calculated based on 10% of the fund received.

**COORDINATING COMMITTEE FOR
GEOSCIENCE PROGRAMMES IN EAST AND SOUTHEAST ASIA (CCOP)
FOR CCOP TECHNICAL SECRETARIAT
NOTES TO THE FINANCIAL STATEMENT (CONT.)
AS AT DECEMBER 31, 2019**

The statement of revenues and expenditures as follow;

	FOR THE PERIOD FROM MARCH 1, 2015 TO DECEMBER 31, 2018	FOR THE YEAR END DECEMBER 31, 2018			FOR THE PERIOD FROM MARCH 1, 2015 TO DECEMBER 31, 2019
		BAHT A/C	USD A/C	TOTAL	
		(THB)	(USD)	(USD)	
	(USD)	(THB)	(USD)	(USD)	(USD)
REVENUES					
1 st installment (50% of Korean WON 230,000,000)	103,515.01	-	-	-	103,515.01
2 nd installment (50% of Korean WON 230,000,000)	97,049.69	-	-	-	97,049.69
3 rd installment (50% of Korean WON 90,000,000)	37,564.80	-	-	-	37,564.80
4 th installment (50% of Korean WON 90,000,000)	39,682.54	-	-	-	39,682.54
5 th installment (50% of Korean WON 72,700,000)	31,913.40	-	-	-	31,913.40
6 th installment (50% of Korean WON 72,700,000)	32,214.04	-	-	-	32,214.04
7 th installment (50% of Korean WON 60,000,000)	25,240.84	-	-	-	25,240.84
8 th installment (50% of Korean WON 60,000,000)	24,328.71	-	-	-	24,328.71
9 th installment (50% of Korean WON 50,000,000)	22,051.69	-	-	-	22,051.69
10 th installment (50% of Korean WON 50,000,000)	-	-	-	22,341.38	22,341.38
11 th installment (50% of Korean WON 70,000,000)	-	-	-	30,412.17	30,412.17
12 th installment (50% of Korean WON 70,000,000)	-	-	-	29,545.34	29,545.34
TOTAL REVENUES	413,560.72	-	-	82,298.89	495,859.61
EXPENDITURES					
Technical Activities					
1 st National Coordinators Meeting	14,215.95	-	-	-	14,215.95
2 nd Project Launching & Training Course	37,583.78	-	-	-	37,583.78
3 rd Training Course	22,061.14	-	-	-	22,061.14
4 th Training Course	13,685.91	-	-	-	13,685.91
5 th Training Course	21,333.15	-	-	-	21,333.15
6 th Training Course	53,019.81	-	-	-	53,019.81
7 th Training Course	17,820.57	-	-	-	17,820.57
8 th Training Course	29,178.94	-	-	-	29,178.94
9 th Training Course	35,912.85	-	-	-	35,912.85
10 th Training Course	24,615.46	-	-	-	24,615.46
11 th Training Course	19,088.64	-	-	-	19,088.64
12 th Training Course	29,933.58	-	380.54	-	30,314.12
13 th Training Course	-	163,931.51	5,132.64	24,365.82	29,498.46
14 th Training Course	-	237,327.86	7,875.23	25,734.74	33,609.97
Technical activities	36,601.22	-	-	-	36,601.22
Office equipment	21,116.45	-	-	-	21,116.45
CCOP Management Fee (10%)	41,356.06	-	-	8,229.89	49,585.95
Audit fee	5,351.66	60,000.00	1,934.33	-	7,285.99
TOTAL EXPENDITURES	422,875.17	461,259.37	15,322.74	58,330.45	496,528.36
REVENUES OVER (UNDER) EXPENDITURES	(9,314.45)	(461,259.37)	(15,322.74)	23,968.44	(668.75)

6. APPROVAL OF FINANCIAL STATEMENT

The financial statement was authorized for issue by the director on February 21, 2020.