

CCOP E-News

Coordinating Committee for Geoscience Programmes in East and Southeast Asia

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Welcome to the CCOP E-News. This e-news is brought to you by CCOP and is meant to give you the latest news and information on its activities around the region and worldwide.

CCOP e-news replaces the former printed CCOP Newsletter and will be issued several times each year. Each can be downloaded at CCOP website, <http://www.ccop.or.th> in PDF format.



TABLE OF CONTENTS

News From The Technical Secretariat	2
Induction into Office of the New Director of CCOPTS, Dr Adichat Surinkum.....	2
Summary Report of the 60 th Ccop Steering Committee Meeting, 26-28 March 2013	4
News From The CCOP Georesources Sector	10
A New Carbon Capture and Storage Programme for CCOP.....	10
CCOP – Norway EPPM Program Dissemination Seminar of the Project 1 (P1) Cross-Border Case Study of North Sumatra – Mergui Basin.....	11
News From The CCOP Geoenvironment Sector	17
CCOP-GSJ/AIST-JMG/UMT DelSEA II Meeting: Short Course on Coastal Geology and Management, 10 - 16 March 2013, Terengganu, Malaysia	17
Technical Seminar on “Modern Remote Sensing for Integrated National Land Safety and Management - International Satellite Constellation 2013” in Bangkok	17
News From The Geo-Information Sector.....	18
DMR-CCOP East and Southeast Asia Geopark Symposium	18
News from Cooperating Countries	19
Germany	19
Mission Trips & Meetings	19
Upcoming CCOP Activities.....	20
For More Information.....	20

News From The Technical Secretariat

Induction into Office of the New Director of CCOPTS, Dr Adichat Surinkum

A ceremonial induction into office was held for the CCOP Technical Secretariat's new Director, Dr Adichat Surinkum, on 1 April 2013 at the CCOPTS headquarters in Bangkok, Thailand. The inauguration was witnessed by Dr R Sukhyar, Chairman of the CCOP Steering Committee and Dr Nawsaporn Nuchanong, Deputy Permanent Representative of Thailand to CCOP. Also present at the ceremony were experts and directors from the Department of Mineral Resources (DMR) of Thailand as well as the outgoing CCOPTS Director, Prof Dr He Qingcheng, and CCOPTS staff members.



Dr Adichat signing the oath of office.

Dr Adichat gained a Doctorate Degree in Geology at Changmai University, Thailand, and a Masters Degree in Geophysics at the University of Western Ontario, Canada. He is a geologist by profession and has 32 years of experience in the fields of geophysics, geothermal resources, geo-environmental studies, mineral exploration and management. Before being elected as CCOPTS Director, he was the Director of DMR's Bureau of Mineral Resources. He has had previous involvement with CCOP as a member of the Finance Select Committee as well being the contact person for Thailand for the CCOP Geohazards Programme.

Dr Adichat will serve as CCOPTS Director for three years, from 1 April 2013 to 31 March 2016. In his acceptance speech at the induction ceremony he stated that he will lead CCOPTS according to a single keyword "SMART", a word made up of the letters S-for Service, M-for motivation, A-for accountability, R-for relationships and T-for teamwork. Working towards achieving CCOP's vision, his slogan is "together we can", believing that with the joint efforts of the CCOP Steering Committee, the Member Countries and the Advisory Group, it can be done!



Dr Sukhyar, Chairman, CCOP Steering Committee, Dr Adichat Surinkum, New Director, Prof Dr He Qingcheng (Former Director) and the CCOPTS staff at the Inauguration of the new CCOPTS Director.

**Organogram of the
CCOP Technical Secretariat
as of 1 April 2013.**



**Adichat
Surinkum**
DIRECTOR

PROJECT COORDINATOR



Simplicio Caluyong
CCS-M Program
Coordinator

REGIONAL EXPERT



**Nguyen Thi Minh
NGOC**
Regional Expert

ADMINISTRATION &
FINANCE DIVISION



**Sansanee "Yui"
Wudhiwanich**
Manager

PROJECT OPERATION &
INFORMATION DIVISION



**Marivic Pulvera
Uzarraga**
Manager



**Maid & Cleaning
Service Company
Limited**

(out-sourced)

Cleaner



**Theerayan "Thee"
Thimasarn**

Clerk/Driver



**Soontaree "Soon"
Rattanasrisophon**

Accountant



**Piriya "Nong"
Boonsit**

Assistant



**Thanitnunth
"Oil" Invakul**

Assistant

Summary Report of the 60th Ccop Steering Committee Meeting, 26-28 March 2013

The 60th CCOP Steering Committee Meeting was held at the Sunee Grand Hotel, Ubon Ratchathani, Thailand. The Meeting was attended by delegates of the following Member Countries (MC): **CAMBODIA, CHINA, INDONESIA, JAPAN, REPUBLIC OF KOREA, LAO PDR, MALAYSIA, PAPUA NEW GUINEA, PHILIPPINES, THAILAND, TIMOR-LESTE** and **VIETNAM**. Also present were **Ms Franca Schwarz**, Chairperson of the Advisory Group (AG), **Dr Yoshihiko Shimazaki**, CCOP Honorary Advisor, **Mr Holger Bietz** from the Global CCS Institute (Australia) as Observer and the Director and staff of the CCOP Technical Secretariat (CCOP TS).

Opening Ceremony

Welcoming remarks were made by **Mr Suttinun Boonmee**, Vice-Governor of Ubon Ratchathani Province, by **Mr. Praneet Roibang**, Director-General of the Department of Mineral Resources, Thailand and Permanent Representative of Thailand to CCOP, and by **Dr. Pithaya Pookaman**, Vice-Minister, Ministry of Natural Resources, Thailand. The Chairman of the CCOP Steering Committee Meeting, Permanent Representative of Indonesia to CCOP and Head of the Geological Agency of Indonesia, **Dr R. Sukhyar** then opened the 60th CCOP Steering Committee Meeting.



Delegates of the 60th CCOP Steering Committee Meeting

Signing of Memorandum of Understanding between CCOP and Global CCS Institute, Australia

Dr R. Sukhyar, representing CCOP and Mr Holger Bietz, representing the Global CCS Institute (GCCSI), Australia signed a Memorandum of Understanding between CCOP and GCCSI.

CCOP Progress Report (1 January 2012 - 30 June 2012)

Prof He, Director, presented the CCOP Progress Report covering administration and finance while Dr Thi Minh Ngoc, Regional Expert, updated the meeting on technical activities and publications during the period 1 January 2012 to 31 December 2012.

During discussion of the above report, Malaysia thanked Japan for agreeing to conduct the recent DeISEA II program in Malaysia. Special thanks to CCOP TS as well as to MCs were accorded for participating in the program. With the cooperation of The University Malaysia Terengganu (UMT), the program was implemented in such a way to benefit the young geoscientists. Malaysia also recorded her appreciation to the MCs that organized technical programs during 2012 and applauded Korea for the capacity building initiatives taken via their International School of Geoscience and Resources (ISGEO) and proposed that CCOP TS negotiate with Korea on ways for CCOP to make use of, and benefit from, ISGEO's training program.

Malaysia also applauded the CCOP TS for their action in inviting the Norwegian Ambassadors in Indonesia, Malaysia and Thailand to the recent EPPM-P1 dissemination seminar (see report on this seminar later in this Newsletter).

Concerning finance, Korea informed the Meeting that the amount of their annual contribution will be maintained at USD 60,000. The Korean Ministry of Knowledge Economy (MKE) had previously instructed KIGAM to reduce their annual contribution to CCOP since it was currently the highest among the MCs. But KIGAM had succeeded in convincing them that it should be maintained at the current level. In addition, the SC Chairman announced to the Meeting that he had received a letter from the Geological Survey of Japan, stating that from 2014, Japan will increase her Member Country annual cash contribution to USD 50,000. The Meeting applauded the delegations of Korea and Japan for their efforts in maintaining and increasing their annual cash contributions respectively.

Consideration of the Revised CCOP Workplan 2013

The CCOP TS Director presented the revised CCOP workplan for 2013 for the consideration of the Meeting. Mr Simplicio Caluyong, EPPM Programme Coordinator updated the Meeting on the successful conduct of the EPPM Dissemination Seminars recently held in Kuala Lumpur, Jakarta and Bangkok (see this Newsletter). He also presented the planned activities of the new CCOP CO₂ Storage Mapping Program (CCS-M).

China updated the Meeting on the planned activities of the CGS-funded projects as follows:

- CCOP Geochemical Mapping Project
- Capability Enhancing on Integrated Geophysical and Geochemical Data Processing within CCOP-ASEAN Countries

They further asked CCOP TS to reflect this in the CCOP Workplan 2013 (ANNEX).

Malaysia suggested that the CCOP TS as well as MCs should consider initiating new or enhancing current outreach type programmes. Such awareness campaigns to educate the non-geoscientist community about the importance of resource development, the protection of groundwater and other georesources can be implemented by various means such as seminars, articles in newspapers and other media events as well as the publication of books.

The Meeting endorsed the revised CCOP Workplan 2013.

New Initiatives

The following new project proposals were made by by Thailand, Philippines, Korea and Japan repectively as summarised below.

Thailand

Georesources Sector (Petroleum)

Project Title: “Standard Petroleum Reserves Report Forms”

Purpose: To create Standard practice for those who work on petroleum resource/reserve classification.

Major Activities: A series of Workshops, for participants who work in the petroleum field, in order to formulate standard petroleum reserves report forms. The workshop may also consider the UNECE’s Resource Classification and other important systems to inform best practice and introduce a standard petroleum reserves report form for all member countries.

Years: 2013 - 2014

Participating Countries: All CCOP Member Countries.

Georesources Sector (Groundwater)

Project Title: “A Feasibility Study of Karst Groundwater Storage”

Purpose: To conserve excess water during the rainy season to be used during the dry season.

Activities: Research to study to the possibility of using underground caves / fractures in karst formations to store excess surface water for further use, especially during the dry season or drought periods This will involve all stage of research from literature review, selection of area andl related surveys for possible underground “aquifer” or space to groundwater storage.

Years: 2014 – 2019

Participating Countries: All CCOP Member Countries.

Georesources Sector (Groundwater)

Project Title: “Transboundary Aquifer Management and Sharing among CCOP member countries”

Purpose: To manage and share ground water resources among neighboring countries.

Activities: Cooperative study on large groundwater aquifers that underlie the areas of a number of countries, e.g., Thailand, Lao PDR, Cambodia, Myanmar, Vietnam, etc. All related countries can share groundwater data and information and help to maintain water quantity and quality for people of related countries.

Years: 2014 – 2019

Participating Countries: All CCOP Member Countries.

Philippines

During the 59th CCOP Steering Committee Meeting in Langkawi, The Philippines made a proposal concerning the compilation/consolidation of **Best practice for planning Mine Decommissioning and Rehabilitation**.

The Mines and Geoscience Bureau (MGB) has started the compilation since December 2012 and was able to locate several success stories from different countries around the world. One example is from Misima Gold Mine in PNG. The operation started in 1988 and was completely rehabilitated in 2012. Another example is the Golden Cross Gold Mine in New Zealand where exploration started in 1977 and in 2001, the mine area was completely rehabilitated. There are also two success stories in coal mines at Wangaloa and Ystrata Coal Mines. Philippines also proposed that the consolidation of success stories should also include details of successfully introducing sustained livelihoods after the life of the mine. The calls for a holistic approach in the said project initiative will be very useful in creating a database for politicians to better understand that there is indeed a responsible mining not only to mine but to leave a fully rehabilitated footprint on the ground.

MGB will email the initial project proposed to all MCs for consideration. They noted that the Malaysian Tin Mine's success stories had inspired the proponent to come out with the idea of consolidating these success stories as one major initiative of CCOP for 2013 or 2014.

Korea

Korea stated that KIGAM's International School for Geoscience Resources will conduct a **Training Course on Groundwater Theory and Application** from 24 June to 8 July 2013. KIGAM will cover two participants from all CCOP Member Countries including Japan, China and Malaysia.

Korea proposed a new project to CCOP TS for 2013 related to the '**Solution of problems concerning water resources in the CCOP region**'. The proposed duration is 5 years, comprising a 1st phase of 2 years and 2nd phase of 3 years. During the 1st phase, two workshops will be held in Bangkok and KIGAM respectively in order to understand the water problems as well as possible solutions in the CCOP region. During the 2nd phase, cooperative actions will be taken to solve the water problems in selected CCOP Member Countries. The project budget of the 1st phase proposed at this time is USD 60,000.

Japan

In the CCOP countries of East and Southeast Asia there are many buildings reflecting the particular countries cultural heritage and constructed with varieties of natural building stone from local sources. Many domestic and foreign tourists who visit those attractive and interesting heritage sites enjoy their beautiful features but know little of their geological background. Adding some geological knowledge to these important sites of cultural heritage can give an interested visitor additional knowledge and pleasure. For this purpose, the designation as 'Global Heritage Stone Resource (GHSR)' has been initiated by the Heritage Stone Task Group (HSTG) of the International Union of Geological Sciences (IUGS). Here, Japan proposes the CCOP contribution to the GHSR designation mainly through two activities: 1) nomination of GHSR candidates, and 2) publication of a CCOP book on heritage stone resources in the CCOP region. Member countries are thus kindly requested to nominate a contact person for this project.

CCOP has already published the books, 'Geological Heritage of East and Southeast Asia' and Geological Museums of East and Southeast Asia'. A part of our proposal here is to publish a third book on the **Heritage Stone resources of East and Southeast Asia** with each CCOP Member Country contributing a chapter on the important building stones used in the construction of their most important national cultural heritage sites. Nominations are now being requested for a contact for the project from each CCOP Member Country.

The Meeting appreciated the efforts of Thailand, Philippines, Korea and Japan in coming up with new project proposals for CCOP and tasked the CCOP TS to work with the respective countries to firm-up the detailed project concept/proposals or workplans.

Consideration of the Revised CCOP Budget for 2013

The Director presented the proposed CCOP budget for 2013. The Meeting endorsed the revised budget.

Report of the 9th Select Finance Committee Meeting (SFC)

Ms. Franca Schwarz, Chairperson of the 9th CCOP Select Finance Committee Meeting, presented the findings and recommendations of the SFC meeting.

On PNG's inquiry regarding the membership of Singapore, the Director informed the Meeting that Singapore was invited to this meeting but had not sent a representative.

Regarding the Philippines' query on the status of Brunei's membership, the Director informed the meeting that contacts have been initiated and a letter has been sent to the appropriate government office in Brunei early this year. However, the CCOP TS is still waiting for Brunei's response and will continue to follow up this matter.

The Meeting appreciated the efforts of SFC in coming up with the recommendations, and tasked the CCOP TS to take actions in collaboration with the Member Countries. On the matter of a proposing a mechanism for developing project proposals and seeking project funding, the Meeting further tasked the CCOPTS to forward the mechanism developed to the SFC, before presenting it at the next Steering Committee Meeting.



9th CCOP Select Finance Committee Meeting, 25 March 2013, Ubon Ratchathani, Thailand.

Report on the Preparations of the 49th CCOP Annual Session and the 61st CCOP Steering Committee Meeting (2013) and future Annual Sessions (2014, 2015)

Japan reported on the preparations made to date on the 49th CCOP Annual Session and the 61st CCOP Steering Committee Meeting scheduled to be held on 20-24 and 25-26 October 2013 respectively. They proposed the topic, "*Geohazards: impacts and challenges for societal development in Asian countries*" for the thematic session, and this was approved by the Meeting.

Before updating the Meeting on the hosting of the 50th CCOP AS and 63rd SC Meeting in 2014, PNG congratulated Dr. Adichat Surinkum on his appointment as new Director of CCOP TS from 1 April 2013. In the same manner, PNG acknowledged Prof. Dr. He Qingcheng for his invaluable contributions to the CCOP TS during his tenure. PNG is confident that both men will continue to add value in the new roles.

Regarding to the hosting of 2014 CCOP events, the PNG's Minister for Mining, Honorable Byron Chan, has fully endorsed the resolution of the CCOP Steering Committee in the Langkawi meeting for PNG to host the 2014 CCOP AS and SC meeting in PNG. The specific information which he requested was obtained from CCOP TS. PNG awaits the approval from the Prime Minister Hon. Peter O'Neil and the NEC (National Executive Council). PNG remains optimistic that their request for funding will be approved. Secondly, he informed the meeting that the potential venue for 2014 CCOP AS and SC Meeting may be problematic as the Tavurvur volcano recently became active, spewing ashes accompanied by

frequent tremors. There are, however, fallback plans if the volcanic activity persists. The CCOP TS will be kept abreast of developments.

Cambodia informed the meeting of their intention to host the 51st CCOP Annual Session and the 65th CCOP Steering Committee Meeting in October 2015, and will report at the next Steering Committee Meeting for confirmation.

The Meeting thanked Japan for the preparations made for the 49th CCOP Annual Session and the 61st CCOP Steering Committee Meeting. They further appreciated PNG for the efforts made to be able to host the 2014 Annual Session. Moreover, they looked forward to confirmation from Cambodia in hosting the 2015 Annual Session.

Report of the CCOPTS Director

The retiring Director, Prof He Qingcheng presented his terminal report covering the main accomplishments during his term, 1 April 2010 – 31 March 2013, and his recommendations to CCOP and its Secretariat.

During his term as the Director, he achieved significant progress, including: Implementing a restructuring action plan for CCOPTS organization; implementing a new balanced budget system; encouraging Member Countries to increase their annual cash contributions where possible and successfully inviting new Member Countries to join CCOP. All these actions implemented by the Director and his staff mark a milestone for CCOP in becoming a more effective and respected international geoscientific organization with international relevance and influence.

The Meeting applauded the Director for his achievements during his tenure, and appreciates the recommendations he has made for continued progress.

Revised CCOP Business Plan 2013-2015

The CCOP TS Regional Expert presented the revised CCOP Business Plan 2013-2015 at the meeting.

On Thailand's inquiry regarding the basis for the calculation of KPI, the Director replied that this is based on the estimation of projects to be carried out yearly, and the annual participation of Member Countries in CCOP activities. At present, KPI is not yet based on the project management income.

The Meeting endorsed the CCOP Business Plan 2013-2015 as presented.

Proposed Revision of the Election Procedure of CCOPTS Director

The Director presented CCOP TS proposal to revise the election procedure of CCOP TS Director.

Ms Franca Schwarz said she does not agree with the proposal that the Advisory Group will nominate the members of the selection committee as this is not the role of the AG. The role of the AG is to advise CCOP and not to be a CCOP decision-making body.

Malaysia applauded CCOP TS for coming up with the proposal and opines that a legal interpretation is needed about the age limit for the candidates, as the Director may be interpreted not as a 'permanent staff' of CCOP. They also proposed that the wording of Article 12.4 of the old Rules of Procedure be maintained and that the new procedure needs to be drafted by a legal expert.

Thailand commented that in case of tie in the results of the voting of the Director, the proposal that the selection of the director be based on the shortlisted names from the evaluation team is not appropriate.

The Meeting agreed that candidates for the post of Director may come from the Public Sector and Private Sector, provided that the Permanent Representative of MC nominates him/her. This opinion was first raised by Malaysia during SC Meeting in Daejeon.

The Meeting decided that this proposal of revision of director's election procedure be reconsidered at the next Steering Committee Meeting, in Sendai Japan, and tasked the CCOP TS to take into account all the comments raised by this Meeting.

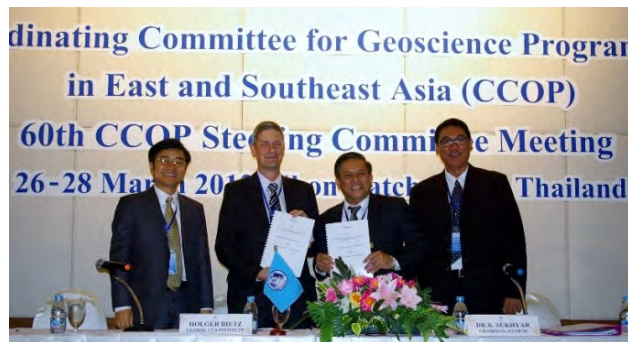
CCOP Member Country Network

Japan circulated the list of members of the CCOP Member Country Network for the information of the Meeting, as well as to update it in case there are some changes (See later in this Newsletter).

News From The CCOP Georesources Sector

A New Carbon Capture and Storage Programme for CCOP

Signing of the Agreement between CCOP and the Global Carbon Capture & Storage Institute (GCCSI) for the [CCOP CO2 Storage Mapping Program \(CCS-M\)](#) 26 March 2013, Ubon Ratchathani, Thailand marked the initiation of an important new project for CCOP.



The agreement between CCOP and GCCSI is to implement the Facilitation Phase (Year 1) of the 4-year [CCS-M project](#) with a fund commitment from GCCSI of AUD 0.5 Million. This marks another milestone for CCOP with a new and very prestigious partner in GCCSI that vigorously advocates CCS as one of the options required to reduce greenhouse gas emissions, both from power generation and other industrial sources.

The goal of the [CCS-M project](#) is to enable the government organizations in the CCOP Member Countries to:

1. Provide a high level overview of the potential for large-scale CO2 storage;
2. Enhance their capacity and capability in the assessment of geological sites for the safe and long-term storage of CO2; and
3. Increase their understanding of the potential of CO2 for enhanced oil/gas recovery

Signing on behalf of CCOP was Dr. R. Suhkyar, Chairman of the CCOP Steering Committee and Permanent Representative of Indonesia to CCOP. Mr. Holger Bietz, General Manager for Projects, Financial and Commercial, signed on behalf of GCCSI. Signing as witnesses were Prof. Dr. He Qingcheng, Director CCOP Technical Secretariat and Dr. Elmer Billedo, Vice-Chairman, CCOP Steering Committee and Deputy Permanent Representative of the Philippines to CCOP.

The Launching Seminar of the **CCS-M** project will be conducted on 29 April 2013 in Bali, Indonesia. This will be immediately followed by the first CCS-M Training Course: ‘Geological Storage Selection and Characterization’ on 30 April – 3 May 2013, also in Bali. It is important to note that the Royal Norwegian Embassy in Jakarta has committed to contribute some funds to support the said Seminar and training course.

The total budget requirement of **CCS-M** is USD 2.0 Million. During the Facilitation Phase, the CCOP TS will continue to promote the Program and seek for additional funding to support the technical activities planned for the next three (3) years.

CCOP – Norway EPPM Program Dissemination Seminar of the Project 1 (P1) Cross-Border Case Study of North Sumatra – Mergui Basin

Summary

The EPPM P1 Dissemination seminar was conducted as a back-to-back activity in Jakarta, Kuala Lumpur and Bangkok from 20 to 22 March 2013. The aim was to report the outcomes and recommendations of the study teams to the stakeholders. The EPPM Program is funded by the Royal Norwegian Government and with the Norwegian Petroleum Directorate as CCOP’s technical partner. The case study area is a petroleum basin that is shared by three Member Countries of CCOP – Indonesia, Malaysia and Thailand.

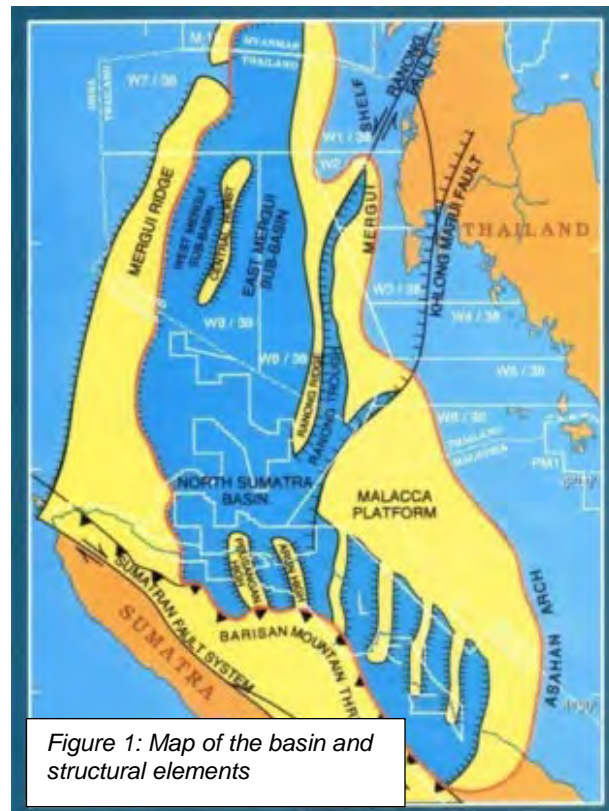


Figure 1: Map of the basin and structural elements

The case study was supported by technical activities including a series of workshops & training courses, coordination meetings, and geological fieldwork conducted over a period of ~4 years. The case study countries provided the data and local expertise over their area of the basin. The data and knowledge from the 3 countries were integrated and combined with expertise from Norway and other cooperating countries that resulted in a better understanding of the broad geological picture of the basin – enhancing geological interpretations and predictions that can be translated into a higher drilling success in the future.

The other member countries of CCOP also participated in the technical activities. The methodologies and workflow that were applied were according to international standards, which are reproducible and free for countries to implement for their own basin study. Special technical training sessions were also conducted to support the specific needs of the case study teams and

the member countries participating in EPPM P1.

The EPPM-dedicated website www.ccop.or.th/eppm is the repository of all records and information of the activities of the Programme and also offers free download to the general public.

Case Study Report

At the start of the case study, agreements were made related to the workflow, data use and interpretations, and the specific tasks for each country. For the specific tasks, the 3 countries agreed on the following assignments:

1. Thailand: To conduct the Structural Interpretation and Reconstruction of the North Sumatra – Mergui Basin;
2. Indonesia: To carry out Sub-surface Mapping, 2D Basin Modeling and Estimation of Hydrocarbon Resources; and
3. Malaysia: To perform Seismic Facies Analysis and Common Risk Segment Mapping.

The main contents of the Dissemination Seminar's program were the presentations of the 3 cases study teams – highlighting the work done, the dynamics in the exchange of data and sharing of knowledge to support their specific tasks and their recommendations.

Thailand presented the structural cross sections of main composite line A, B and C, outlining some sub-basins and the variety of structural and stratigraphic traps present in the basin such as;

- Drape over basement High
- Roll-over
- Crest of block
- Drag fold

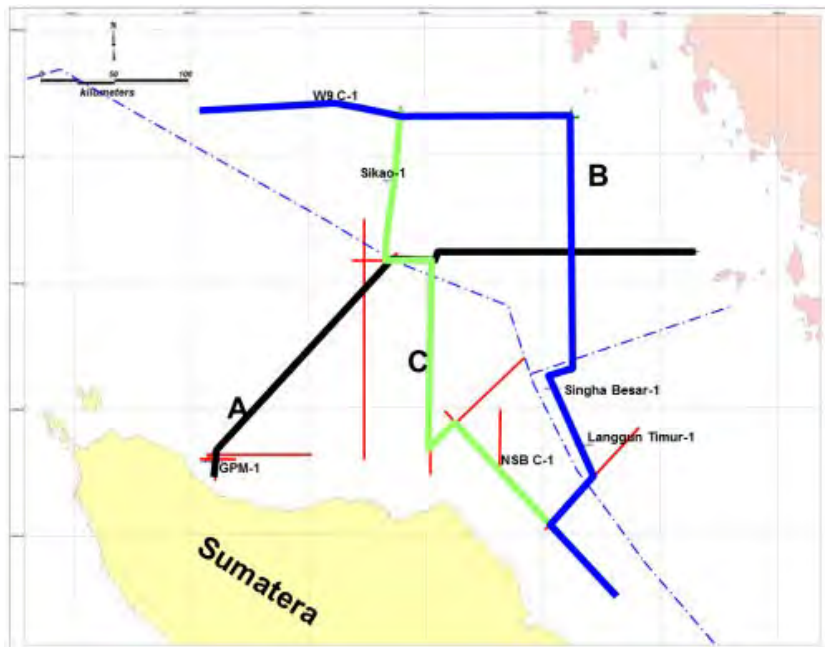


Figure 2: Composite Line A, B and C

The stratigraphic plays of basin floor fan and mid-fan turbidite sandstone within the Kantang formations could be prime targets for future exploration. These plays are adjacent to the kitchen area and probably will have appropriate migration charges. They also reported that the presences of source rock and migration pathways are the critical risks for hydrocarbon accumulation in the basin.

Thailand also reported that they have benefited in the sharing of experiences and information during the conduct of the technical activities. They believed that this has resulted in the strengthening of connections and cooperation among the geo-scientists and therefore must be continued, even outside of CCOP activities.

Indonesia reported that

1. Five (5) regional horizons have been mapped based on 18 regional seismic lines. Three (3) regional composite lines were also constructed to conduct 2D modeling.
2. The estimated hydrocarbon generated from the mature source rock in the kitchen is located in the southern part of the study area is about 6000 MMBOE with possible 10% hydrocarbon that could be trapped (600 MMBOE).

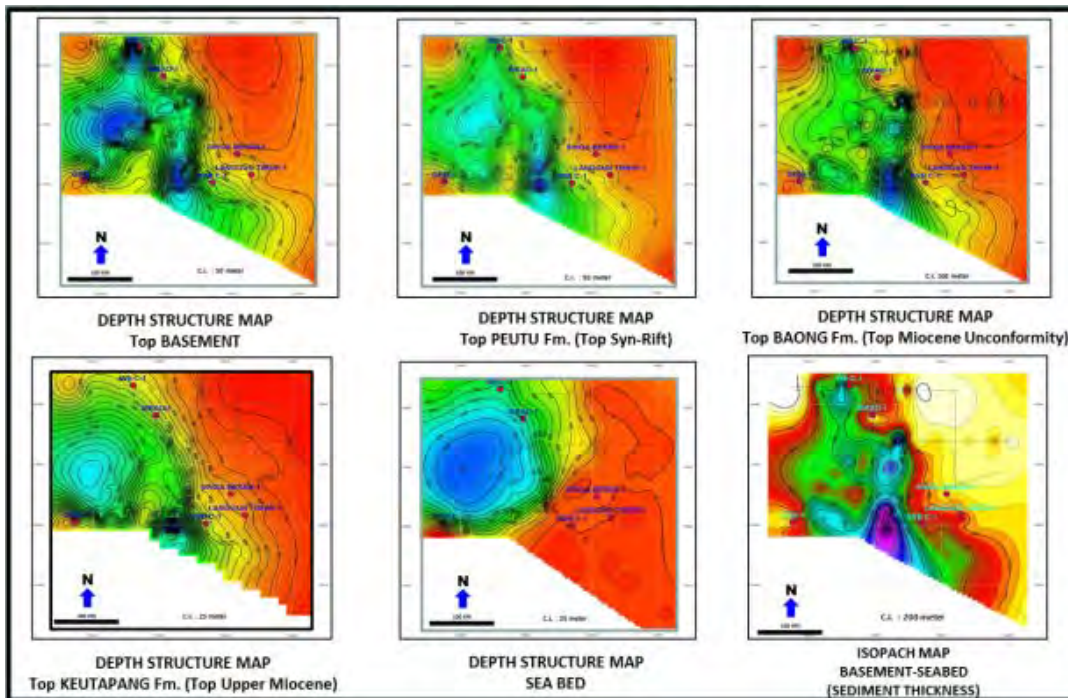


Figure 3: Depth Structure Maps of the southern part of the basin

The report of **Malaysia** captures the general outcomes of the case study and are summarized as follows:

1. The CCOP-P1 project provides the big picture of the basin through Cross-border data sharing and collaboration;
2. The Cross-border area is still an exploration frontier and risky;
3. Most part of the area has been evaluated as medium risk;
4. The high risk area is in the basin centre (deeper/less data);
5. The main play type:
 - a. Shallow Marine (Carbonate & Clastics) – Proven plays
 - b. Slope Fan Turbidite – Unproven/less explored –potential target for the future; and
6. The CCOP-P1 Project demonstrated the significance of collaborations among neighboring countries in lowering and managing exploration risks.

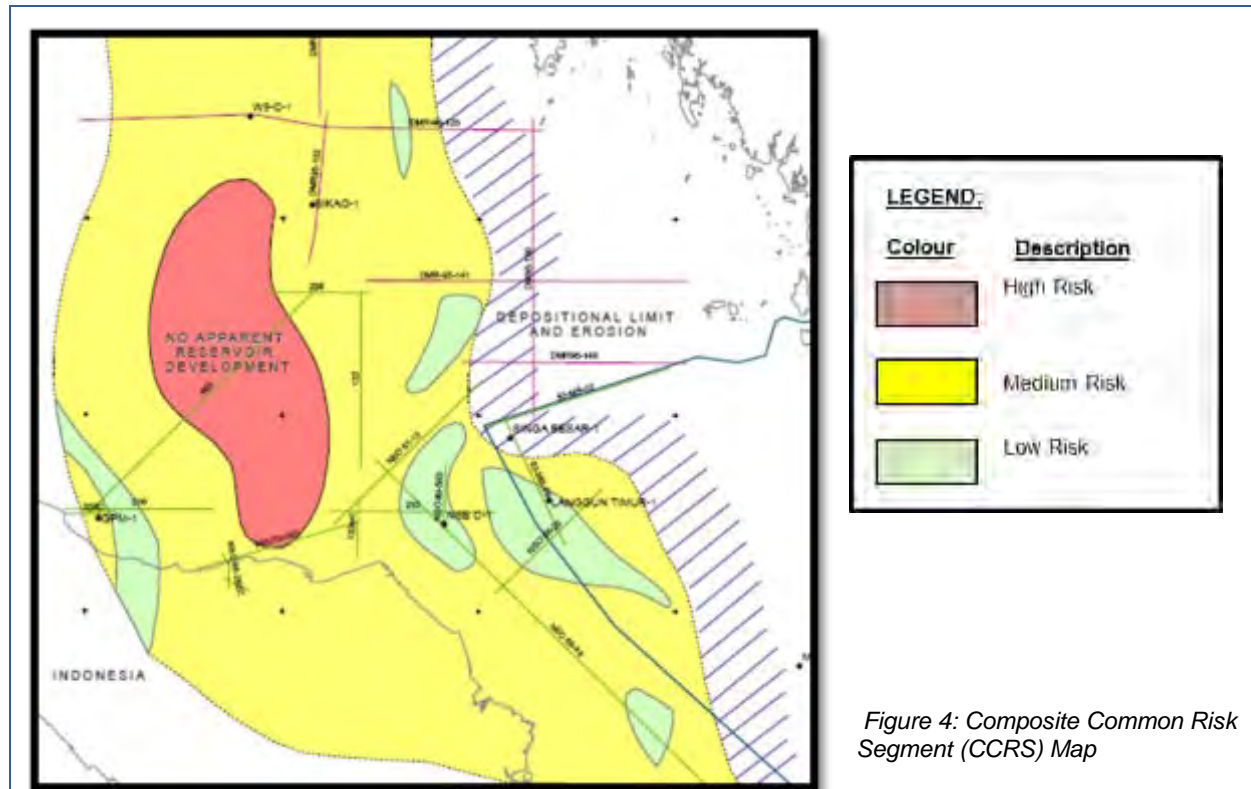


Figure 4: Composite Common Risk Segment (CCRS) Map

Recommendations for the Way Forward

1. Each member country to continue the studies and pursue the exploration targets in their territories guided by the results of the cross-border collaboration under EPPM P1 Project.
2. The EPPM P1 Project is exemplary in cross-border collaboration and should be replicated and extended into other parts of the North Sumatra Basin, i.e Myanmar.
3. Further collaboration beyond CCOP:
 - a. Malaysia- Indonesia (South Melaka Straits);
 - b. Malaysia-Thailand border area;
 - c. Malaysia-Thailand-Indonesia - Deep Basin Centre; and
 - d. Thailand-Myanmar border area.

Overall, the P1 Project provided opportunities for building/strengthening the relationship and networking of the member countries. It was also reported by the national coordinators that knowledge learned from participation in the technical activities is disseminated through reporting and the conduct of “echo” seminars. Some countries have already implemented some of the concepts learned in their basin assessment and exploration promotions.

The final presentation was delivered by Mr. Per Blystad of the **Norwegian Petroleum Directorate (NPD)** and highlighted the more than 35 years of cooperation between Norway and CCOP as well as NPD’s observations as technical partner in the P1 case study.

1. A common database has been established – first time in CCOP Projects. The combined data, the interpretations and results outweighs the sum of each of the contributions.



2. The 2D basin analysis shows mature (hydrocarbon kitchens) – confirmed in North Sumatra.

3. Several petroleum play models have been identified. Elaborated risking of the plays will help in identifying the best area of the basin for exploration.

4. The results of the study forms the basis for future studies in each of the countries and will help in fostering future cooperation.

Mr. Per Blystad of NPD delivering his report

Stakeholders at the Seminars

The Jakarta Seminar was conducted in LEMIGAS and attended by 25 participants, mostly senior management representatives from LEMIGAS and Geological Agency of Indonesia, Ministry of Mineral and Energy Resources. Also present was Ms. Marianne Damhaug, Counselor Minister of the Royal Norwegian Embassy (RNE)-Jakarta.

Meanwhile, the Kuala Lumpur Seminar was conducted at the iconic PETRONAS Twin Tower (Level 40, Tower 1) and was attended by 30 participants, mostly senior management representatives from PETRONAS and Mines and Geoscience Department, Malaysia. Also present were H.E. Ambassador Hans Ola Urstad of the RNE-Kuala Lumpur and Dato' Yunus Abdul Razak, Permanent Representative of Malaysia to CCOP and Director-General of Minerals and Geoscience Department, Malaysia.



Group photo at the Skybridge (level 42) of the PETRONAS Twin Tower

The Bangkok Seminar was conducted at the Department of Mineral Fuels (DMF), ENCO Building B and was attended by 24 participants led by the Ms. Wannaporn Sawatdimongkol, Deputy Director-General of DMF and several management representatives and officers. Representing RNE-Bangkok is Dr. Chatri Moonstan, Senior Program Officer for Development Cooperation.



The Seminar at DMF, Bangkok

Members of the case study teams and CCOP Technical Secretariat that were present during all the Dissemination Seminars are as follows:

Organization/Country	Name
Department of Mineral Fuels/Thailand	Dr. Phumee Srisuwon Dr. Wanida Chantong Ms. Chanida Kaewkor
LEMIGAS/Indonesia	Dr. Eko Budi Lelono Mr. Jonathan Setyoko Hadimulyono Mr. Panuju
Geological Agency/Indonesia	Ms. Lauti Dwita Santy Mr. Rakhmat Fakhruddin
PETRONAS/Malaysia	Mr. Mohd Razali Che Kob
NPD/Norway	Mr. Per Blystad Mr. Knut Henrik Jakobsson
CCOP Technical Secretariat	Prof. Dr. He Qingcheng Mr. Simplicio P. Caluyong

For the future, CCOP is planning to extend the case study to Myanmar's Andaman basin – the northern extension of the case study basin. The discussions between CCOP Technical Secretariat Myanmar Oil and Gas Enterprise (MOGE), the regulatory agency and national oil company of Myanmar, indicated that Myanmar is very interested to participate in the case study. CCOP TS will have to exert more efforts of finding ways on how the planned case study extension can be funded.

News From The CCOP Geoenvironment Sector

CCOP-GSJ/AIST-JMG/UMT DeISEA II Meeting: Short Course on Coastal Geology and Management, 10 - 16 March 2013, Terengganu, Malaysia

The project “Integrated Geological Assessment for Deltas in Southeast and East Asia” (DeISEA-II Project) is supported by the Japanese Government through the Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST). Phase I of the DeISEA Project was launched in April 2004 and successfully completed in April 2008 after which the Geological Survey of Japan, AIST, continued support for Phase II as a 4 year-project from 2008 to 2012. Due to Tohoku Earthquake and Tsunami in 2011, this project is to be extended until April 2014. The purposes of this project are to foster exchange of modern knowledge on deltas, Quaternary geology, sequence stratigraphy, and geological coastal management and to enhance research and joint study for better understanding of deltaic coasts and geological assessment for coastal management through scientific meetings, training courses and excursions to the Asian coasts.

The most recent meeting, a “Short Course on Coastal Geology and Management”, was jointly organized by the Geological Survey of Japan (GSJ/AIST), the Minerals and Geoscience Department of Malaysia (JMG), the Universiti Malaysia Terengganu (UMT) and the CCOP Technical Secretariat from 10-16 March 2013 in Kuala Terengganu and Kota Bharu, Malaysia with the participation of 2 resource persons, 3 guest speakers, 8 participants from CCOP member countries, 40 local participants and 2 CCOPTS staff.



Kelantan Sabak, Kota Bharu – Coastal erosion



Drill core training during the course.

The training course included 3-days of lectures on Coastal Geology and Coastal Management, including core cutting, core description, and core interpretation, together with country reports by CCOP member countries, and was followed by a 2-day geological excursion and field discussion along the coasts from Terengganu to Kota Bharu (Kelantan delta), Malaysia.

Technical Seminar on “Modern Remote Sensing for Integrated National Land Safety and Management - International Satellite Constellation 2013” in Bangkok

The Technical Seminar on “Modern Remote Sensing for Integrated National Land Safety and Management - International Satellite Constellation 2013” was jointly organized by University of Tokyo, VisionTech (Japan), Department of Minerals (DMR) and CCOP Technical Secretariat in Bangkok, Wednesday 20 March 2013 with the participation of 5 speakers and an audience of, 45 participants from Thailand, Germany, Japan and CCOPTS staff.

During the 1-day seminar, speakers presented natural hazard problems and mitigation plans in Thailand, and shared experiences on application of Remote Sensing tools for natural hazard monitoring and management. The panel discussion after the presentations focused on 3 main topics: 1) Future possibility of radar remote sensing for hazard monitoring; 2) Requirements for achievement of effective satellite monitoring system; 3) Possibility of future collaboration framework between Japan, Thailand and other CCOP countries



Prof. Shuichi Rokugawa from the University of Tokyo giving a presentation.



News From The Geo-Information Sector

DMR-CCOP East and Southeast Asia Geopark Symposium

The Royal Thai Department of Mineral Resources and CCOP Technical Secretariat, organized the East and Southeast Asia Geopark Symposium, which was held on 26-30 March 2013 at Sunee Grand Hotel, Ubon Ratchathani, Thailand. The symposium was focused on issues related to geoheritage sites and proposed areas for geoparks in South, Southeast and East Asia.

The symposium was opened by Dr. Phitya Pukaman, Vice Minister of Ministry of Natural Resources and Environment of Thailand, and symposium attracted 200 participants drawn both from various CCOP Member Countries and from local organisations. One day of technical presentations by Geopark Technical Experts from Finland, China, Japan, Vietnam, Thailand and Indonesia, together with an exhibition on Geopark activities in Thailand, was followed by 3 days of excursions visiting geosites in Ubon Ratchathani and Kalasin provinces. This gave ample opportunity to discuss and exchange information among the participants and expert group. The symposium was very successful in further extending networking on Geoparks within the Southeast and East Asia region.



Excursion at Ubon Ratchathani Province.

News from Cooperating Countries

Germany

The **German Federal Institute for Geosciences and Natural Resources (BGR)** continues to support its CCOP partners in SE Asia. In the **Scientific-Technical Cooperation** sector several projects are ongoing. BGR is cooperating with **Indonesia** in an Integrated Ocean Drilling Program. Scientific cooperation with the **China** (Ministry of Land and Resources) is realised with the Chinese Geological Survey in the areas of mineral and energy resources, management of geological data and data bank systems as well as CO₂-storage (CCS) in geological formations.

In the field of environmental geology, specific hydro-geological aspects in areas of karst and georisk zoning, applying the multi hazard approach, were recently added such as “Seismic risk analysis – Yanqing” with **China** with the **Philippines** in the project “Rift processes and basin development in the northern South China Sea (RISE)” and furthermore in the multilateral project “Groupe Recherche Industrie South China Sea”.

The **Technical Cooperation** sector comprises three projects funded by the **German Federal Ministry for Economic Cooperation and Development (BMZ)**. One project is in **Indonesia** entitled “Good Local Governance: Component Mitigation of Georisks” whilst in **Vietnam** the project “Improvement of Groundwater Protection” is ongoing. In 2011 BGR started a new project on “Support for Sustainable Development of the Mining Sector” in Lao PDR.

The CCOP platform is often sought for conducting joint thematic workshops in the region of Southeast Asia.

Further information can be found on the BGR website:

http://www.bgr.bund.de/EN/Themen/Zusammenarbeit/int-zusammenarb_node_en.html

Mission Trips & Meetings

- The Director participated the **International Conference on Groundwater Science and Technology**, 1-4 October 2012, Changchun, China.
- The Director attended the **2nd Liaison Official’s China-ASEAN Mining forum (CAMF)**, 14-15 November 2012, Bangkok, Thailand.
- The Regional Expert joined the 2nd IGES Evening café: “What happened and what comes next in the next decade after Rio+20?”, 20 November 2012, Bangkok, Thailand.
- The Director participated the **Project Inception Workshop: “Comparative Research of Groundwater Management in the Coastal Areas in Southeast Asia”**, 3-7 December 2012, Amsterdam, the Netherlands.
- Ms Marivic Pulvera Uzarraga participated the **12th ASEAN Senior Officials Meeting on Minerals (ASOMM) and the 5th ASOMM Plus 3 (China, Japan and Republic of Korea) Consultations**, 5-6 December 2012, Bandar Seri Begawan, Negara Brunei Darussalam.
- Mr Simplicio Caluyong participated in the SPE Applied Technology Workshop (ATW) entitled, “**Carbon Capture and Storage - Emphasis on Offshore Carbonate Reservoirs**” on 3-6 February 2013 in Penang, Malaysia. He presented the CCS-M Program in the Workshop and also met with Dr. Steve Whittaker, a senior reservoir

engineer of Global CCS Institute and representatives of CO2 CRC of Australia, to explore areas of cooperation within the context of the CCS-M Program.

- The Regional Expert attended the **4th PAGES Open Science Meeting (OSM) 2013: The past – a compass for future earth** on 11-19 February 2013 in Goa, India.

Upcoming CCOP Activities

Date	Activity	Venue
29 Apr – 3 May 2013	The CCOP CO2 Storage Program (CCS-M) Launching Seminar & CCS Training Course on Geological Storage Selection and Characterization http://www.ccop.or.th/activity/292	Bali, Indonesia
28 – 30 May 2013	CCOP-DMR-DPIM Seminar on Best Practices on Mining Activities http://www.ccop.or.th/activity/294	Bangkok, Thailand
18 – 20 June 2013	CCOP-CGS Capability Enhancing on Integrated Geophysical and Geochemical Data Processing Project (IGDP) Training/Workshop http://www.ccop.or.th/activity/293	Kunming, China
20-23 Aug 2013	CCS-M Training Course 2: Storage Capacity Estimation	Bangkok, Thailand
24-25 Sept 2013	CCS-M China Case Study Seminar	China
20 – 24 Oct 2013	49 th CCOP Annual Session http://www.ccop.or.th/activity/288	Sendai, Japan
25 – 26 Oct 2013	61 st CCOP Steering Committee Meeting http://www.ccop.or.th/activity/289	Sendai, Japan
10-13 Dec 2013	CCS-M Training Course 3: Mapping, GIS Applications and CCS Technologies	Malaysia

For More Information

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