

ANNUAL COUNTRY REPORT OF THAILAND



OUTLINE

- Geo-Resources Sector
 - (1) Mineral Programme
 - (2) Energy Programme
 - (3) Groundwater Programme
- Geo-Environment Sector
 - (4) Coastal zone Programme
 - (5) Geo-hazards Programme
 - (6) Environmental Geology Programme
- Geo-Information Sector
 - (7) Geo-Data and Information Management Programme
- Activities in 2013 with CCOP Member Countries

GEO-RESOURCES SECTOR

- Mineral Programme
- Energy Programme
- Groundwater Programme

MINERAL PROGRAMME

Fiscal year 2011

Annual Review of Technical Programme/Activities

1. Exploration and Assessment for Mineral Resources

1.1 Regional mineral exploration

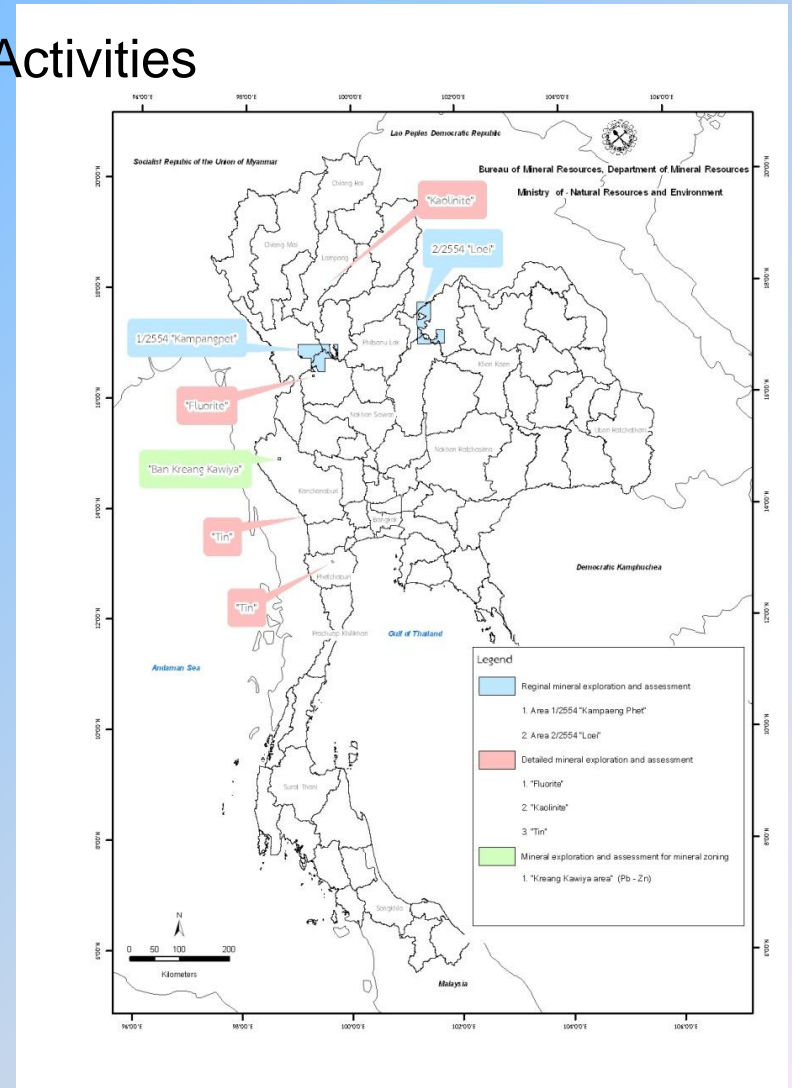
- Loei province
- Nakhon Sawan and
Kampangpet provinces

1.2 Detailed mineral exploration

- Kampangpet (fluorite)
- Kanchanaburi and Petchaburi
(Tin)
- Lampang and Chiang Rai
(kaolinite)

2. Mineral Exploration and Assessment for Mineral Zoning

- Ban Kreang Kawiya,
Kanchanaburi



MINERAL PROGRAMME (Cont'd)

Fiscal year 2012

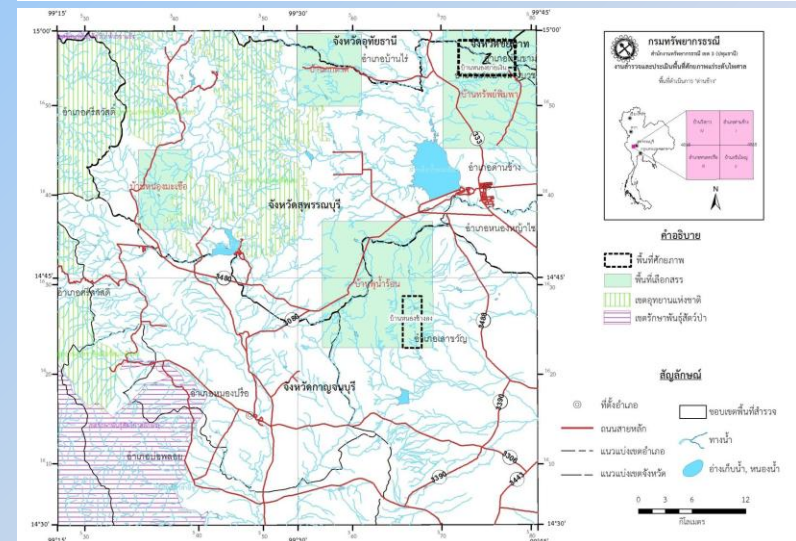
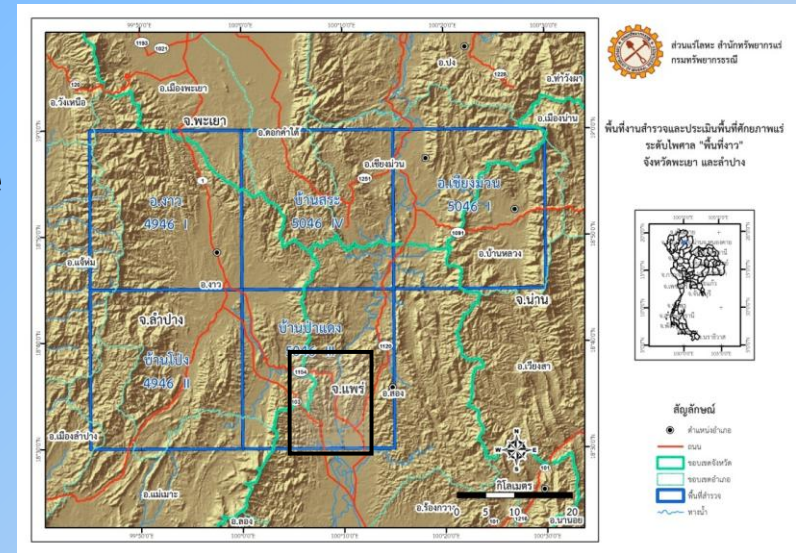
Annual Review of Technical Programme

1. Exploration and Assessment for Mineral Resources

1.1 Regional mineral exploration

- Ngao area (Northern Thailand) (Pb-Zn-Cu, Sb, Ba)

- Danchang area (Central Thailand) (Tin, Tungsten, Heavy minerals)

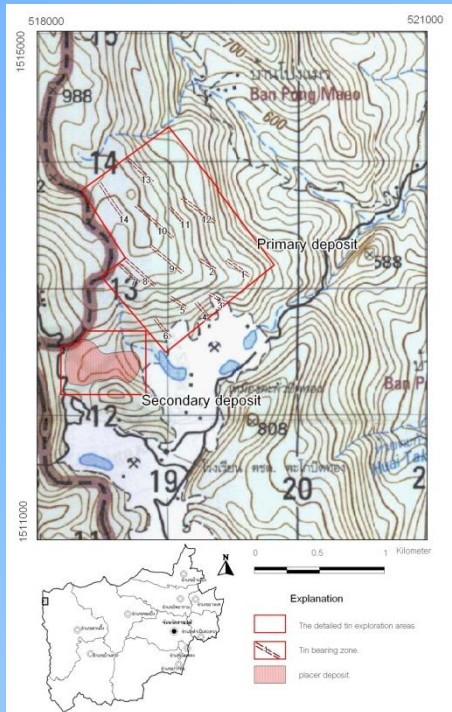


MINERAL PROGRAMME (Cont'd)

1.2 Detailed mineral exploration and assessment

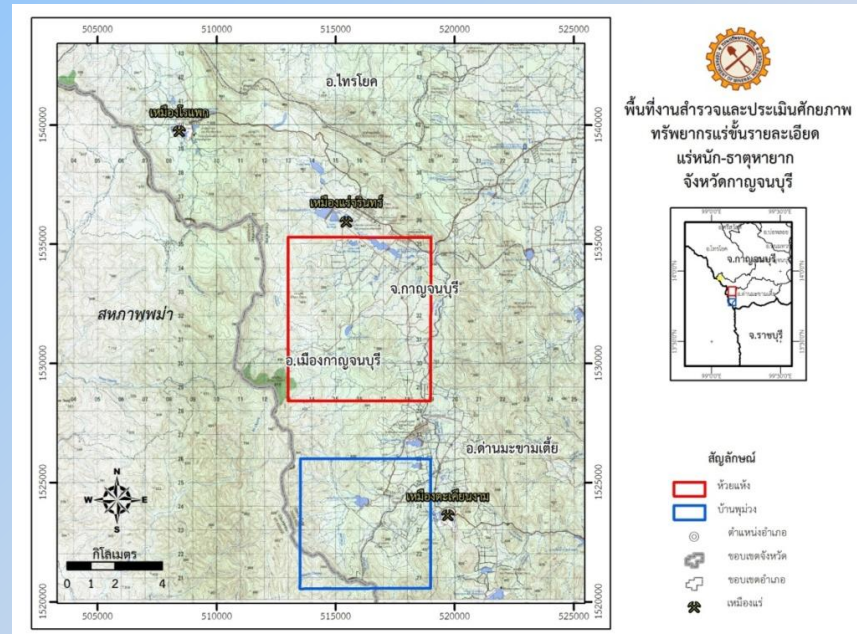
1.2.1 Ratchaburi province (Western Thailand)

- Takopittong (Tin), Suan Phueng Dist.
- Estimated resources – 11,600 MT



1.2.2 Kanchanaburi province (Western Thailand)

- REE
- Ban Phu Muang (6,200 MT)
- Huai Haeng (18,400 MT)



MINERAL PROGRAMME (Cont'd)

2. Mineral Exploration and Assessment for Mineral Zoning

- Project area : Long District, Phrae Province (Northern Thailand)
- Two types gold: primary and secondary
- Primary Au assoc. with epithermal quartz vein
- Estimated resources : 14 MT

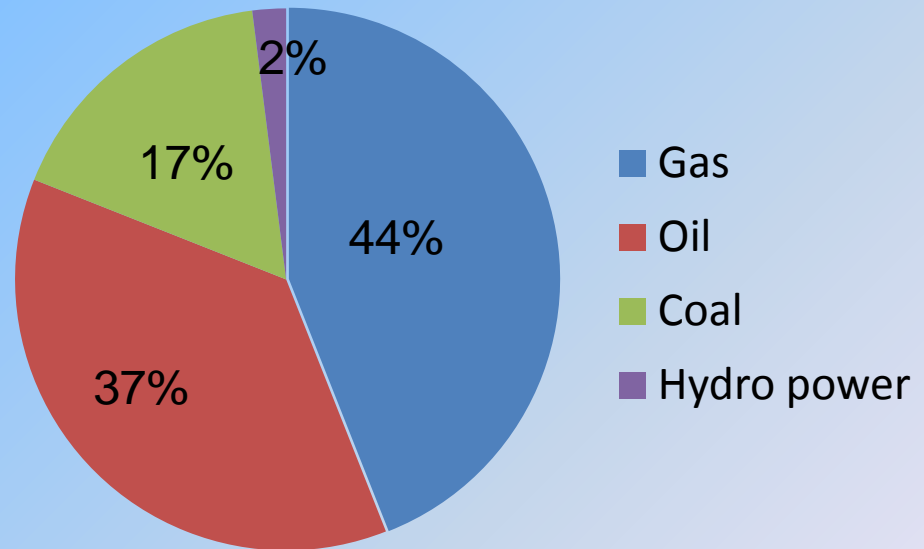
ENERGY PROGRAMME

1. Summary

- Primary energy consumption of Thailand = 1.9 million barrel/day

- Total consumption of:

| Year | 2010 | 2011 |
|---------------------|---------|---------|
| Coal (million tons) | 34.93 | 35.3 |
| Crude Oil (bbld*) | 121,571 | 110,965 |
| Gas (MMscfd**) | 2,678 | 2,692 |



* Barrel per day

** Million standard cubic feet per day

ENERGY PROGRAMME (Cont'd)

Thailand's preliminary proved reserves

| Year | 2010 | 2011 |
|----------------------|------|------|
| Gas (Tcf*) | 10.6 | 10.6 |
| Condensate (MMbbl**) | 245 | 239 |
| Crude oil (MMbbl) | 197 | 215 |

** Million barrels

* Trillion cubic feet

ENERGY PROGRAMME (Cont'd)

2. Annual Review of Technical Programme/Activities

a) New Petroleum Licensed Applications

- 10 new Production Area (PA) have been granted
- 4 areas in Gulf of Thailand
- 6 areas in Phitsanulok (central of Thailand)

b) Petroleum Exploration Activities

- 9,573 km² 3D seismic survey was conducted
- Drilling total of 118 exploratory wells
- Development well : 897 wells

ENERGY PROGRAMME (Cont'd)

3. Proposed Future Activities Assistance Required from CCOP in Support of Future Activities

-Training on:

1. Conflict negotiation and public awareness
2. Petroleum fiscal regime
3. Unconventional oil and gas

- Workshops on petroleum concession bidding best practice

GROUNDWATER PROGRAMME

1. Summary

- Cooperating with CCOP under the project entitled “CCOP-GST/AIST Groundwater Project Phase II
- Recent work: detailed hydrology mapping at scale of 1:50,000

2. Annual Review of Individual Technical Activities

- Groundwater and Land Subsidence Monitoring
- Providing clean groundwater by drilling a well including a purification system
- Conjunctive Water Use
 - Integrating groundwater and surface water for supporting economic development
- River Bank Filter Project
 - New project
 - Concept: to develop high shallow groundwater potential

GROUNDWATER PROGRAMME (Cont'd)

3. Proposed Future Activities

- Geothermal Exploration
 - to support clean energy development
- Deep Groundwater Investigation

4. Assistance Required from CCOP in Support of Future Activities

- Require CCOP to cooperate in geothermal development project

GEO-ENVIRONMENT SECTOR

- Coastal zone Programme
- Geo-hazards Programme
- Environmental Geology Programme

COASTAL ZONE PROGRAMME

1. Annual Review of Individual Technical Activities

- Gathered the shoreline data in the form of GIS
- Organized an International Symposium on Sea Level Rise and Coastal Erosion
- The Thai-Cabinet issued 3 resolutions to solve the coastal erosion problem
 - 4 plans to serve these resolutions
 - 1) Design and analysis report management
 - 2) Investment of global warming Impact prevention and management plan
 - 3) Ecosystem restoration plan
 - 4) Promoting knowledge and cooperation plan

2. Proposed Future Activities

- Coordination of the integration plan for the year 2011-2016 and building a cooperation system for all relevant organizations

GEOHARZARD PROGRAMME

1. Summary

- In 2011 many part of Thailand was affected by serious flooding and landslide
- The damage cost: about 45.7 billion US\$ or ranking as the fourth most damage disaster in the world
- 13.6 million people were affected



GEOHARZARD PROGRAMME (Cont'd)

Pictures of the worst flooding in Thailand

Bangkok Airport



GEOHARZARD PROGRAMME (Cont'd)

Pictures of the worst flooding in Thailand

Bangkok Airport



GEOHARZARD PROGRAMME (Cont'd)

Pictures of the worst flooding in Thailand



GEOHARZARD PROGRAMME (Cont'd)

2. Annual Review of Individual Technical Activities

- The landslide Risk Mapping in Community level
- The Landslide Watch Network Establishing
- The Increasing Efficiency of Landslide Monitoring System
- The Developing of Landslide Model
- The Landslide Rehabilitation



Shows the landslide reservoir by applying the plastic flapped sack Ban Pangma-o, Lampang Province.

ENVIRONMENTAL GEOLOGY PROGRAMME

1. Summary

- The Saline Soil Area Development Project has been launched since 2008 in response to His Majesty the King's advice in Khonkhaen, Udon Thani and Sakhonnakhorn

2. Annual Review of Individual Technical Activities

- Cooperating with research team from Khon Kaen University and dissemination knowledge of saline soil solution from the Saline Soil Study Centre to target areas in 2012

3. Proposed Future Activities

- Extension phase of The Saline Soil Area Development Project in Northeast Thailand in 2 provinces (Mahasarakham and Roi Et)

GEO-INFORMATION SECTOR

GEO-DATA AND INFORMATION MANAGEMENT PROGRAMME

1. Summary

- DMR implemented an in-house activity only in the CCOP-CGS Metadata project
- 369 metadata of the geological maps have been done

2. Annual Review of Individual Technical Activities

- CCOP Metadata Phase II Project
- Global Earth Observation Grid (GEO Grid) Project
- One Geology Project

GEO-DATA AND INFORMATION MANAGEMENT PROGRAMME

3. Proposed Future Activities

- Contributing metadata information of geological maps and publications to the CCOPGMIS portal
- Sharing of experience for improving activities of the CCOP metadata standard
- Interactive WMS on geological hazards is planned to be setup on the DMR website

4. Assistance Required from CCOP in Support of Future Activities

- Intellectual rights grant to DMR for installation of CCOPGMIS system

5. Assistance Offered to CCOP/Other Member Countries in Support of Future Activities

- Technical assistance and instruction on the CCOPGMIS
- Technical assistance and instruction on GIS training

Activities in 2013 with CCOP Member Countries

- Workshop on flood prevention (lesson-learned from 2011 flood in central Thailand) support by Ministry of Science and Technology
- Workshop on Green Mining support by Siam Cement Group
- Workshop on Low-temperature Geothermal Energy support by Groundwater Fund

Thank you...

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PHA TAEM
UBON-THAILAND
THE PREHISTORICAL PAINTING CLIFF

