



## SUMMARY

**CCOP-GSJ/AIST-CGS Meeting & Training on Groundwater Project in 2006  
25 - 27 September 2006, Beijing, China**



**CCOP Technical Secretariat,**  
Thai CC Tower, 24th Floor, Suite 244-245,  
889 Sathorn Tai Road, Bangkok 10120, Thailand  
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*September 2006*

## **PROGRAMME**

### **24 September 2006 (Sun)**

Arrival of all participants to Beijing

### **25 September 2006 (Mon)**

- 08:00-09:00 Registration  
09:00-09:30 Opening Ceremony  
Speeches by:  
**Prof. Dr. Zhang Hongtao**, Permanent Representative of China to CCOP, Deputy Director General, China Geological Survey  
**Mr. Chen Shick Pei**, Director, CCOP Technical Secretariat  
**Dr. Atsunao Marui**, CCOP Groundwater Project Leader, Senior researcher, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology  
09:30-10:00 Group Photo / Coffee Break  
10:00-10:30 Keynote - Introduction by Project Leader  
10:30-11:00 Sub-projects group meeting for progress report  
11:00-12:00 Presentation from 3 sub-project group meeting  
12:00-13:00 Lunch  
13:00-14:00 Discussion of Sub-Projects interim report  
14:00-15:00 Training Course on Analysis and Evaluation of Groundwater Data (Lecture by China)  
“Groundwater and Land Subsidence Monitoring in China”,  
by Dr. He Qingcheng, CIGEM  
15:00-15:30 Coffee Break  
15:30-17:00 Cont'd Training Course  
“Groundwater and environments: case study in China”,  
by Dr. Prof. Wen Dongguang, CGS  
17:00 End of the day  
18:00 Welcome dinner (hosted by GSJ/AIST)

### **26 September 2006 (Tue)**

- 08:30-10:00 Training Course (Lecture by Japan & Korea)  
“Groundwater Simulation”  
by Dr. Adrian Gallardo, Hytec Corp  
10:00-10:30 Coffee Break  
10:30-12:00 Cont'd Training Course  
“Acquisition and Analyze of Field Data for Construction of Groundwater Database”  
by Dr. Youhei Uchida and Dr. Isao Machida, GSJ/AIST  
12:00-13:00 Lunch  
13:00-15:00 Cont'd Training Course  
”Establishing a standard methodology for development of groundwater flow models in Korea”

by Dr. Yongje Kim, KIGAM  
15:00-15:30 Coffee break  
15:30-17:00 Cont'd Training Course  
“Groundwater quality management and pollution remediation in Korea”  
by Dr. Joo-Sung Ahn, KIGAM  
17:00 End of the day  
18:00 Dinner (hosted by KIGAM)

**27 September 2006 (Wed)**

1-day Excursion to The Great Wall and Land Subsidence Monitoring station  
Farewell lunch (hosted by CGS)

**28 September 2006 (Thu)**

Departure of all participants

**CCOP-GSJ/AIST-CGS Meeting and Training on Groundwater Project in 2006  
25 - 27 September 2006, Beijing, China**






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**Opening Address**  
**MEETING AND TRAINING COURSE ON GROUNDWATER PROJECT**

**25-27 September 2006**  
**Beijing, China**

Prof Dr Zhang Hongtao, Permanent Representative of China to CCOP, Deputy Director General, China Geological Survey

Mr Ma Yongzheng, Deputy Permanent Representative of China to CCOP, Deputy Director, International Cooperation Science and Technology, Ministry of Land and Resources

Dr Jiang Shijin, Director, International Cooperation Division, China Geological Survey

Dr Atsunao Marui, GSJ/AIST

Distinguished experts and participants

Ladies and Gentlemen

First of all, on behalf of CCOP, I would like to extend a very warm welcome to Prof Dr Zhang Hongtao and to thank him for taking his valuable time, despite his heavy work schedule and many commitments, to be here with us in this morning's opening session for the Meeting and Training Course for the Groundwater Project and do us the honour of officiating the ceremony and to deliver the opening speech. I would also like to warmly welcome all the resource persons, and CCOP Member Countries' coordinators, experts and participants to this Meeting. On behalf of CCOP, I would also like to say a big thank you to our colleagues and friends Marui San GSJ/AIST, Dr He Qingcheng of CGS and Dr Joo Sung Ahn of KIGAM and their colleagues for their strong interest and the generous support, which has made this meeting and training programme for the groundwater project in Beijing possible.

I am pleased to see that many of you who are here today have already taken part in the previous two gatherings under the project: the kick-off meeting held on 1-2 March 2005 in Bangkok, the first Training Programme held on 31 October to 4 November 2005 also in Bangkok. During the kick-off meeting, the implementation planning for the project for the next 3 years was carried out by Member Countries' scientists with project experts from Japan, China and Korea. In the second meeting and training programme, many important topics in groundwater, including groundwater resources, groundwater quality, effects and impacts of groundwater use, as well as the monitoring, simulation and mapping of groundwater aquifers were covered.

I am pleased to say that for this training course, the experts of Japan, China and Korea have selected very important and useful topics: groundwater data analysis and evaluation and database construction, groundwater simulation and flow models, groundwater quality management, pollution remediation and land subsidence monitoring.

As you are probably aware, the Groundwater Project is being implemented under 3 sub-projects;

- 1) Groundwater Environment and Management in the Urban Coastal Area
- 2) Groundwater and Land Subsidence Monitoring
- 3) Groundwater Evaluation Using Monitoring System

In this meeting, you will have an opportunity to discuss the progress and issues under them.

Groundwater is of immense importance. In the request for assistance submitted to the CCOP Technical Secretariat by the Member Countries in the previous year, the following geoscientific aspects have been identified:

- i) Assessment and development of groundwater resources
- ii) Environmental problems associated with uncontrolled or unmanaged groundwater extraction
- iii) Groundwater development, management and issues of small islands, and remote areas with poor infrastructures and low level of socio-economic development
- iv) Application of geophysics in groundwater exploration, software for groundwater modeling
- v) Aquifer recharge, water flow study by isotope and origin of the groundwater
- vi) Salt water intrusion

You would probably have noticed that the training course conducted in October-November 2005 and the content of this training course are addressing many of the important aspects considered as important to the Member Countries. We hope that you can benefit from these training courses and the knowledge you bring back will help you in dealing with groundwater issues in your country.

Before I conclude, I would like to record our deepest appreciation to Dr He Qingcheng and the China Geological Survey for having responded so quickly and generously to host this meeting and training course after we were unable to organize it at the earlier agreed venue due to unforeseen circumstance. I would like to take this opportunity to once again thank GSJ/AIST, CGS and KIGAM for the support of this groundwater activity of CCOP. We also like to thank Member Countries for their support of the project and to the participants for coming to this Meeting to share your experience and expert knowledge of groundwater in your country.

Finally, I would like once again to thank Prof Dr Zhang Hongtao for joining us this morning in this opening session of the Meeting. Many thanks also go to Dr He Qingcheng, Marui San and Dr Joo Sung Ahn and their staff and the Technical Secretariat staff for their hard and efficient work and the smooth arrangement for this Meeting.

I wish you a successful and fruitful meeting and training and a pleasant stay in this wonderful city Beijing, China.

Shie Shie and Thank you

## **Opening Speech: CCOP-GSJ/AIST-CGS meeting and training course on Groundwater project in 2006**

By Prof. Dr. Zhang Hongtao

Ladies and Gentlemen,

Good morning!

As a Permanent Representative of China to CCOP and on behalf of China Geological Survey as the host, I sincerely welcome all of you, distinguished delegates from the Member Countries of CCOP, to Beijing to participate in today's CCOP-GSJ/AIST-CGS meeting and training course on Groundwater program.

It is known that the principal aim of CCOP is to facilitate and coordinate the implementation of applied geo-science programs to boost economic development and improve quality of life in CCOP region. China has been benefited a lot from that by joining hundreds of projects from CCOP since 1979 when it officially became one of members in CCOP. These projects are involved with assessment of oil/gas reserves, geo-physical investigation, sand mine investigation on offshore, regional mapping, construction of strata database, global mineral resource assessment, groundwater assessment and control, management of coastal zone in Asia, and geo-hazards assessment. These projects helped us import more advanced technology in applied geo-science to China and cultivate great numbers of professionals in related fields.

Groundwater plays a very important role in water supply for agriculture, industry, domestic life in China, especially in north of China. Compared with developed countries with efficient management of groundwater, China still needs much more efforts to realize such management. International cooperation and projects on groundwater from CCOP offered an excellent opportunity to us to improve the capability of groundwater prospecting, resource assessing, groundwater monitoring, data managing, information processing, and groundwater-concerned legislation. In 2004 and 2005, projects on groundwater we joined covered groundwater and land subsidence monitoring, construction of groundwater database, deep water resource assessment. These projects improved bilateral cooperation and technical exchanges between China and other member countries in CCOP.

I wish today's meeting and training course a friendly platform for all delegates from CCOP region to exchange and learn from each other. As it is best season in Beijing, I also wish all of you a wonderful stay here.

Finally, I would deeply thank those who organized, prepared, and arranged this meeting. Again, I congratulate the successful opening of today's meeting. Good beginning is half way to success. I wish it whole success 3 days later.

Thank you.

**The Minutes of the CCOP-GSJ/AIST-CGS Meeting and Training Program  
on the Groundwater Project in 2006**  
*Groundwater Assessment and Control in the CCOP Region*  
**25 – 27 Sept., Beijing, China**

The CCOP-GSJ/AIST-CGS Meeting and Training Program on the Groundwater Project, “Groundwater Assessment and Control in the CCOP Region” was held on 25th to 27th September 2006 in Beijing, China. It was attended by a total of twenty-nine distinguished guests from China, participants from Cambodia, China, Indonesia, Japan, Korea, Malaysia, Papua New Guinea, Philippines, Thailand, Vietnam, and the CCOP Technical Secretariat.

The Meeting was officially opened by Dr. Zhang Hongtao, Permanent Representative of China to CCOP, Deputy Director-General, China Geological Survey, Mr. Chen Shick Pei, Director of the CCOP Technical Secretariat and Dr. Atsunao Marui, Project Leader of the Geological Survey of Japan, AIST welcomed the participants to the Meeting and Training Program.

In the morning of the first day, Project meeting was carried out. Dr. Marui made a explanation about the outline of meeting as a keynote presentation. Sub-group meetings were carried out in the morning. Results of discussions and progress situation were reported by each sub-group project leader.

Dr. Marui and Dr. Uchida from GSJ/AIST introduced the situation of sub-project “Groundwater Environment and Management in the urban coastal area”, and reported that the goal of the sub-project will be achieved in the target year. Dr. He from CIGEM represented about sub-project “Groundwater and Land Subsidence Monitoring”, and introduced the observation system shown in the excursion. The sub-project is progressing favorably. Dr. Ahn from KIGAM made a presentation of “Groundwater Evaluation Using Monitoring System” and the problems of groundwater which should be solved, and progress of the groundwater monitoring system were shown, simultaneously. The summary of three sub-group projects is shown in a table attached in the bottom.

In the end of the meeting, the followings are confirmed:

- 1) Sub-group project will be finished in 2007, and a result of sub-group project also will be published in the timing. Every member country selects a corresponding participant (at least one person for one sub-group project) to accomplish a responsibility of publishing the results products in the last year of the sub-group project.
- 2) The final product of this total project is expected to be a combination of the sub-group projects. We will have a workshop in the final year (2008) meeting.
- 3) Next year (2007) meeting will be held in Japan or Korea. We expect the meeting will be the final meeting to complete each sub-group project in 2007.

Training course was carried out after the project meeting. A total of six lectures were made by resource persons from China, Japan and Korea during the one and a half day training. The first day, two professors from China gave lectures. In the Second day, four lectures was held by Korea and Japan, the lecturer and title of the program is as follows:

Prof. Dr. He (CIGEM): “Groundwater and Land Subsidence Monitoring in China”

Prof. Dr. Wen (CGS): “Groundwater monitoring and resources in China”

Dr. Uchida and Dr. Machida (GSJ): “Acquisition and Analyze of Field Data for Construction of Groundwater Database”

Dr. Gallardo (GSJ): “Modeling of Groundwater Flow and Pollution”

Dr. Ahn (KIGAM): “Groundwater Quality Management and Pollution Remediation in Korea”

Dr. Kim (KIGAM): “Establishing a Standard Methodology for Development of Groundwater Flow Models in Korea”

To facilitate the complete the project, the tasks, target dates and final products for each sub-group project are summarized in the table shown in Appendix below:

Appendix Table: Outline of the Sub-group project

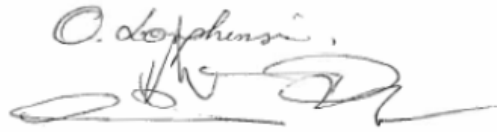
Sub-project	Member	Activity	Input data	Dead line	Expecting outputs
Groundwater Environment and Management in the urban coastal area	Japan Indonesia Philippines PNG	*Understanding the present law condition and focus the future needs *Research the potential of gw resources in each capital basin	*Laws and regulations about groundwater *Hydro-geo map, water-balance data	Spring 2007	*Structural map of gw law in CCOP region *Gw resource volume of major basin in each country
Groundwater Evaluation Using Monitoring System	Korea Cambodia Malaysia PNG* Thailand* Vietnam*	*Collecting and interpretation of monitoring data for Malaysia, Thailand and Cambodia. *Establishing a conceptual monitoring network *Arsenic issues in gw of Cambodia	*Gw monitoring data of a certain basin or country in Malaysia, Thailand and Cambodia	Summer 2007	*Conceptual monitoring network system *Methodology document for constructing monitoring system
Groundwater and Land Subsidence Monitoring	China Thailand Vietnam Cambodia*	*Establish the monitoring system for land subsidence (LS) and gw in North China Plane (NCP) *Process in all collected data to evaluate the situation of LS *Research the potential of LS in case study country	*Map of LS in NCP *LS data of Thailand and Vietnam	Spring 2007	*Synthetic understandins of LS in NCP *Phenomena, natural and social back-ground and political countermeasure about LS

\* sub-member

This Minutes is adopted as signed.



Cambodia



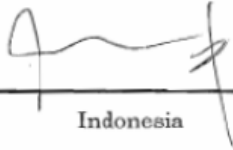
Thailand



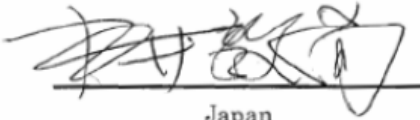
China



Vietnam



Indonesia



Japan



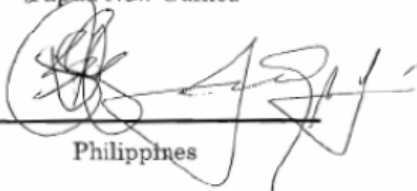
Korea



Malaysia



Papua New Guinea



Philippines