



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

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Cooperating Country Report of **FINLAND**

Submitted by

**PHILIPP SCHMIDT-THOMÉ, JAANA JARVA, KRISTIINA
NUOTTIMÄKI (Vietnam, KIGAM), TIMO RUSKEENIEMI (KIGAM)
ESKO KORKIAKOSKI (Lao PDR)**

Geological Survey of Finland (GTK)

(For Agenda Item 4)



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

CCOP Building, 75/10 Rama VI Road, Phayathai, Ratchathewi, Bangkok 10400, Thailand

Tel: +66 (0) 2644 5468, Fax: +66 (0) 2644 5429, E-mail: ccopts@ccop.or.th, Website: www.ccop.or.th

ANNUAL COOPERATING COUNTRY REPORT

Country/Organization:	Finland	Period:	30 June 2016 – 31 October 2017
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1. Summary

During the reporting period the Geological Survey of Finland (GTK) has been developing and implementing the following projects or activities in the CCOP Region:

1. Managed aquifer recharge to ensure sustainable groundwater availability and quality under ongoing climate change and fast economic development in Vietnam
2. WB funded geological mapping project in Lao PDR
3. Participation of GTK experts to a KIGAM workshop on High Radioactive waste disposal and KIGAM – GTK workshop on future cooperation potential

2. Review of current technical activities and geoscience programmes in the CCOP Region (Multilateral or Bilateral)

2.1 Managed Aquifer Recharge Vietnam

In September 2017 GTK and its Vietnamese partners, the Sub-Institute of HydroMeteorology and Climate Change (SIHYMECC) and The Center for Water Resources Warning and Forecast (CEWAFO) were granted a fund to prepare the project document for the “Managed aquifer recharge to ensure sustainable groundwater availability and quality under ongoing climate change and fast economic development in Vietnam”, conducted under the Institutional Cooperation Instrument of the Ministry for Foreign Affairs of Finland.

The main objectives of the project are: 1) to study current hydrological conditions in Binh Dinh, 2) to find out the different needs and possibilities of Managed Aquifer Recharge (MAR), 3) to improve capability to implement MAR, and 4) to improve communication and raise awareness on sustainable water management. Binh Dinh was selected as a project case study area because of water shortage problems, which are increasing due to climate change and socio-economic development. In this case study area, the geological and hydrogeological conditions are favourable for MAR, and groundwater is the main water resource for livelihood and groundwater exploitation.

2.3 Geological mapping in Lao PDR

After completing two projects in Lao PDR, the FMA funded Lao-Finnish Minerals Sector Institutional Project “LAOFIMIN” (2009-2011) and its continuation, the Mining Cadastre System project (2012-2013) financed with the World Bank (WB), GTK is since April 2016) implementing a new WB funded geological mapping project "Consultant services for acquisition and development of geodata infrastructure (geological mapping) within selected areas in Lao PDR. GTK is leading this project the other partners being International Geoscience Services Ltd (IGS) from UK and Canadian Paterson, Grant & Watson Ltd (PGW). The geological mapping on the 2100 sq. km study area is preceded by airborne geophysical survey carried out by Sander Geophysics Ltd as a sub-contractor.

Objective of the project is to develop a targeted geological interpretation of the study area by integrating new airborne geophysical, geological mapping data and any other geodata to update the existing geodatabase in ArcGIS format. The project started in May 2016 and will continue till June 2018 including about 30 working months (excluding the airborne survey). The contract value is close to USD two million. It is conducted in collaboration with the Lao Ministry of Energy and Mines (MEM), the local partners to be trained in processing the new geophysical data and in geological field mapping are coming from the Department of Geology and Mines (DGM). The airborne survey including magnetic and radiometric measurements was done due to the highly alternating elevation by helicopter. This work was completed during the last dry season. The geological field mapping at 1:50 000 scale utilizing the new airborne data is scheduled to take place between November 2017 and February 2018.

3. Cooperation between GTK and KIGAM

On February 6 – 8th, 2017 GTK experts visited Korea. In KIGAM they discussed about Korean nuclear waste disposal program and related co-operation between the Surveys. Also a seminar was held where the Finnish program on geological waste disposal was presented. It was agreed to continue close technical co-operation in this field.

On February 9 and 10, 2017 a Technical workshop for HLW Disposal Program was organized in Seoul National University by five Korea academic societies related to nuclear engineering and geology. GTK experts gave a keynote talk about the Siting process and current status of HLW disposal program in Finland for an audience of 300 Korean experts.

On September 11 and 12, 2017 GTK experts were invited to a joint workshop with KIGAM in Seoul. In 2015 GTK and KIGAM signed a MoU to cooperate in geoscience activities at the annual CCOP meeting in Xi'an, China. The aim of this workshop was to deepen and widen ongoing cooperation between the two institutions and to seek third party funding, e.g. from ADB and WB. In the wake of the workshop the Global Green Growth Institute's (GGGI) HQ in Seoul were visited, and GTK experts attended an ADB seminar in Helsinki. The identified areas for cooperation are Managed aquifer recharge, Geological Mapping, Exploration & Mineral Potential Assessment, and Urban Geology, Mine Environments and Geological Hazards. The beneficiaries of this cooperation shall certainly include CCOP member countries. Further steps of the KIGAM/GTK cooperation shall be discussed during the CCOP annual session in October 2017.

GTK would like to invite CCOP countries to start talks on cooperating in future joint activities in the CCOP region.

4. Reports/publications of technical activities for dissemination to CCOP Member Countries including contributions to GRID-Net

Kristiina Nuottimäki, Jaana Jarva and Philipp Schmidt-Thomé "Geosciences supporting urban flood mitigation" to be published in the Thematic' session proceedings of the 52nd CCOP Annual Session