



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

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Cooperating Country Report of United Kingdom

Submitted by

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(For Agenda Item 4)



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

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ANNUAL COOPERATING COUNTRY REPORT

Country/Organization:	UK/BGS	Period:	1 July 2007 – 30 June 2008
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1. Summary

International activities have included continuing long-term projects in Madagascar, Ghana, Niger and Papua New Guinea, the main focus of which is institutional strengthening and natural resource exploration through geothematic surveys. Major projects were completed in Afghanistan, Ethiopia, Mali, Montserrat, Mozambique, Sao Tome and the United Arab Emirates; while new projects were started in Nigeria and the UAE.

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

On the strength of our past record of providing geological mapping and research assistance to the Hong Kong Civil Engineering and Development Department (CEDD), we were invited by CEDD in March 2008 to provide an independent external review of their newly revised 1: 20 000 scale bedrock geology map sheet 7, Sha Tin.

Geological mapping and mineral potential assessment has continued for a second year in the mountainous jungle region of the Papua New Guinea Highlands. The project is being undertaken in conjunction with Deutsche Montan Technologie GmbH with funding from the European Development Fund.



BGS Geologist, Bert De Waele, stops off at the remote village of Ilu in the PNG Highlands to purchase a hesian bag, or 'billum' (May 2008)



At each community it is customary to meet with the village elder and explain the nature of our work (May 2008)

During the second quarter of 2008 geological mapping and geochemical stream sediment sampling was completed for the Jimi map sheet in the Western Highlands and Enga regions. Four geological maps at 1:100 000 scale have now been finalised.

Research has continued in conjunction with universities in China on developing advanced seismic techniques to identify and characterise deep reservoirs. Several joint papers were published during the course of the reporting year (see under section 4).

Research has continued also on developing a better understanding of the generation, propagation and impact of tsunamis. Since July 2005 the UK government has been funding the Tsunami Hazard Project, which is due to complete in 2009. This has included a study into the causes of the Papua New Guinea tsunami of July 1998, leading to the publication of a paper during the course of the year (see under section 4).

3. Proposed future activities and assistance to CCOP in support to current and future activities

Future cooperative activities by the BGS will continue for the time being to be largely dependent on the availability of funding from external sources.

There may be opportunities for World Bank funded work in Papua New Guinea under its Second Mining Sector Institutional Strengthening Technical Assistance Project.

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

Barker, J. A. & Lawrence, A. R. 2008. A simple model of leakage induced by deep pumping and its application to pollution beneath a city in Thailand. *Hydrogeology Journal*, **16** (3), 407–417.

Brown, T. J., MacKenzie, A. C. & Idoine, N. E. 2007. *China and south east Asia mineral production 2001–2005: a product of the World Mineral Statistics database*. Keyworth, Nottingham: British Geological Survey, iv, 10 pp.

Culshaw, M. G. 2007. Using geohazard knowledge and information for societal benefit. In: *Proceedings of the sixth Asian Regional Conference on Geohazards in Engineering Geology*, Seoul, Republic of Korea, 16-19 October 2007, pp 15–31.

Liu, E., Yue, J. H. & Dobson, A. 2008. Boundary integral modelling of elastic wave propagation in multi-layered 2D media with irregular interfaces. *Communications in Computational Physics*, **3** (1), 52–62. [Research undertaken in collaboration with China University of Mineralogy and Technology, Department of Geophysics, Jiangsu, and Chinese Academy of Sciences]

Parrish, R. R., Crowley, Q. G., Zhongguo di zhi da xue 2007. A-type granite and adakitic magmatism association in Songpan-Garze fold belt, eastern Tibetan plateau: implication for lithospheric delamination. *Lithos*, **97** (3/4), 323-335.

Riding, J. B. 2007-08. [Four palynological reports on Mesozoic-Cainozoic samples from Papua New Guinea] *Internal Report, British Geological Survey*.

Tappin, D. R., Watts, P. & Grilli, S. T. 2008. The Papua New Guinea tsunami of 17 July 1998: anatomy of a catastrophic event. *Natural Hazards and Earth Systems Sciences*, **8**, 243–266.

Yang, D. H., Shen, Y. Q., **Liu, E.** 2007. Wave propagation and the frequency domain Green's functions in viscoelastic Biot/squirt (BISQ) media. *International Journal of Solids and Structures*, **44** (14/15), 4784–4794. [Research undertaken in collaboration with Tsinghua University (China), Chinese Academy of Sciences, and China University of Mineralogy and Technology, Department of Geophysics, Jiangsu]

Yue, J. H., **Liu, E.** & Liu, S. C. 2007. Effects of pore fluids on the interfacial and fracture compliances. *Journal of Seismic Exploration*, **15** (4), 367–385. [Research undertaken in collaboration with China University of Mineralogy and Technology, Department of Geophysics, Jiangsu]

5. Others

In February 2008 BGS hosted a meeting at its head office (Keyworth, Nottingham) of the Commonwealth Heads of Geological Surveys (CHOGS), which was attended by the Director General of the Minerals and Geoscience Department of Malaysia. During the three-day meeting a number of issues of common concern were discussed, amongst which the problem of training and retention of professional staff is of key concern to Geological Survey organisations in the Developing World.

BGS was also host to a large delegation from the China Seismological Bureau in November 2007. The purpose of their visit was to strengthen cooperation with BGS, to understand the relationship between BGS and the UK academic sector (advantages and disadvantages), to examine how BGS distributes scientific data and information to the public, and to discover how BGS encourages innovative science and technology research.

In September 2007 we received a two-week visit from Ms Yoonhee Ahn from the International Cooperation Office at Korea Institute of Geoscience and Mineral Resources (KIGAM) who wanted to learn how BGS organises and manages its international activities.

During the reporting year the BGS website was re-designed and much new material added. The International pages now provide access to over 160 reports emanating from the Knowledge and Research Programme that was funded by the UK Department for International Development (DFID) from 1989 to 2005. Reports and/or project summaries can be downloaded in pdf format. There are some improvements that need to be made to the website to make it fully user-friendly, which hopefully will be addressed in the near future.