Experiences of the BGS in capacity building and development projects

IGC OSLO

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David Ovadia
Director of International
British Geological Survey
Keyworth
UK NG12 5GG
[dco@bgs.ac.uk]

The British Geological Survey was formed in 1964 by the merger of the domestic Geological Survey and the Overseas Geological Surveys, since when it has worked in over 90, mainly developing, countries. Until 1997, this work was largely supported by the UK Government's Overseas Development Administration, which was succeeded by today's Department for International Development, or DfID. Since 2000, most of our work overseas has been funded by the World Bank, the African Development Bank and the European Union and is focussed on poverty reduction through economic development in the earth resources sector. The key drivers have been the Millennium Development Goals and UK Government policies, including Gleneagles G8 and support for NEPAD.

The issues to be addressed in a typical development project are these:

- Mining / Petroleum Acts and Regulations outdated / not enforced : licences not worked or relinquished; data and reports not submitted, lost or improperly sold
- Poor cadastral systems – discourages transparency
- Geological maps and other information outdated, lost or otherwise not readily available to investors

- Little modern systematic surveying carried out
- Geological survey and related institutions run down, dysfunctional, short of running costs, demotivated / underpaid staff, skills and experience base elderly and near retirement, HIV/AIDS affecting younger staff, brightest and best go to industry or abroad
- Universities not producing sufficient new graduates to meet national need; courses old fashioned and outdated; lecturers demotivated and under-skilled
- Hence the country loses out in the competition for the investment dollar

These are, by and large, governance rather than geological challenges. Reasons for the decline in capacity include war, decay of national infrastructures, funding shortages and loss of skills locally.

Too often we see the evidence of previous aid projects left as sedimentary layers of maps, reports, equipment and broken down vehicles. Once the consultants go home and the external funding stops, there is no budget to maintain the equipment, pay the staff, or continue the work and everything stops until the next aid project. Cynically, one could say that this is in the interests of the consultants, who are called back and the development agencies, who are often measured by the volume of aid money they shift. But it is clearly not in the interests of the country. It has been estimated that up to 80% of the value of any aid project finds its way back to the developed world. The point is that these projects do not, in themselves, aid the beneficiary country significantly, but if carried out properly, they should lead to long-term benefit for the countries concerned.

The solution can be expressed simply but is more challenging to achieve. It is for three development project goals:

OUTPUTS

- Modern, digital, national and open geoscience information
- Secondary and tertiary education producing sufficient geoscientists to meet the needs of the nation

OUTCOME

- Inward investment, job creation, trickle down, exports and economic growth above the regional average, producing sustainable funding for the sector

Does it work? How do we measure success?

The BGS approach to overseas projects gives great emphasis to the training, both on-the-job and through formal approaches and capacity building, as integrated activities within the acquisition of survey information. It is important to over-train, as some of the newly skilled counterparts will move to better paid jobs in the industry, which is good for the country, if not for the Survey, some may go overseas and, sadly, some may die of HIV/AIDS. But training existing geologists is not enough, we have to work closely with the schools, colleges, universities and employers, to support the education and training of new geoscientists who will find work in both the government and private sector. Whereas previously the focus was on providing a few with expensive MScs, or PhDs, in European or US universities, it is more beneficial to create a much larger number of potential employees, who have

practical and applicable skills in geology, that are needed by the mining industry in their countries.

In the end, success is measured not in the number of maps published, or degrees awarded, but by economic growth rates, higher than would have happened anyway. Proving the cause and effect is extremely difficult, although some work on this has been carried out[1]. What seems to be clear is that, based on various case studies, the return on investment does happen, at a rate between 10 times to 1000 times, but the time period is 5 to 20 years. However, much work remains to be done to better understand the societal benefits that flow from geoscience related support.

As well as economic growth measured by GDP, exports and employment, there are beneficial spin offs, including reduced risk from geological hazards, sustainable groundwater supplies, better environmental protection and pollution controls and greater preparedness for climate change impacts.

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[1] *Ovadia D C, 2007 "Geology As a Contributor to National Economies and their Development" Proceedings of the CCOP Annual Session, Cebu, Philippines*

USGS 1993, Societal Value of Geologic Maps. United States Geological Survey Circular No. 1111, by Bernknopf R L, Brookshire D S, Soller D R, McKee M J, Sutter J F, Matti J C and Campbell R H. United States Government Printing Office

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