AusAID Mining for Development Initiative – Government Linkages Program
Geoscience Australia Concept Paper - December 2011

The sustainable development of mineral resources can contribute to economic growth and poverty reduction within developing countries. In order for countries to transform mineral potential into sustainable resource development and wealth, an improved understanding of the geology and possibility for new mineral discovery is required. One way to achieve this is through the acquisition, management, interpretation and dissemination of pre-competitive geoscience data and information by government agencies.

AusAID Mining for Development Initiative – Government Linkages Program

The goal of the AusAID Government Linkages Program is to strengthen the capacity of developing partner countries to translate their national resources into sustainable economic and social benefits. Australia is the world's largest and most successful exporter of mineral commodities and is a recognised world leader in sustainable mining practices, and so is well placed to assist with this goal. Within that context, the Australian Commonwealth and State and Territory geological government agencies play a central role in developing, regulating and promoting Australia's mining industry, and this expertise can enable developing countries to develop their own sustainable mining industries.

Geoscience Australia's capability within the mineral resource industry

Geoscience Australia (GA) is the custodian of the geographic and geological data and knowledge of the nation, and creates, maintains and disseminates this information for the future well being of all Australians. Within the mineral resource industry, Geoscience Australia has the technical capability to provide support in the following areas:

1) Pre-competitive data acquisition, processing and interpretation;
2) Data stewardship and delivery; and
3) Mineral resource assessment and advice.

Pre-competitive data acquisition, processing and interpretation

Geoscience Australia has an extensive history of acquisition, processing and interpretation of a range of high-quality geoscience datasets (including geology, geophysics, geochemistry and geochronology) at both a regional and national scale. As well as delivering these baseline geoscience datasets directly to industry, these datasets can also be integrated and modelled using a range of software and computational systems to provide new information on the geological history of regions, and their prospectivity for new mineral deposits.

Data stewardship and delivery

Geoscience Australia is the custodian of numerous continental-scale and point datasets and provides national leadership on consistent approaches to data management and stewardship. The storage of large volumes of geoscientific data requires structured data management systems and web-based delivery tools, so that the data may be discoverable and accessible to mineral companies and other government users. The maintenance of these datasets is crucial, so that they can be updated as scientific and technological advances are made.

Mineral resource assessment and advice

As the Commonwealth Government's geoscience advisor on aspects of the minerals industry within Australia, Geoscience Australia has extensive experience in assessing national mineral resources and mineral prospectivity, and provides annual national identified mineral resource estimates. These assessments provide government information on the current and future commodity wealth of the country and assist with planning of infrastructure and employment requirements. Within Australia, the regulation of the minerals industry (licences, OH&S etc) is managed by State and Territory government agencies. Through its well-established relationships with these agencies, Geoscience Australia has experience in preparing resource and prospectivity information for input to regulatory processes. While the details of regulations will differ in other countries, the preparation of prospectivity and resource information is directly transferrable.

Program Proposal Description

The Geoscience Australia Government Linkages Program proposal is a 3 year project designed to run from July 2012 to June 2015 (see Table 1 for proposed timeline), and the scale of the program will depend on the funding scenarios listed in the next section. Stage 1a will occur in the first 6 months of the program, and will focus on short-term missions to between 4 and 6 countries to meet with government geological surveys and related resource management organisations to identify priorities and establish collaborative working relationships. The suggested short-term missions will include Papua New Guinea, Indonesia and the Philippines, where Geoscience Australia already has established development programs through AusAID, and with Mongolia, which is identified as a key developing resource-rich country by AusAID. Other countries will be identified later as part of discussions with AusAID and other collaborators in the Mining for Development initiative.

The short-term missions will support Geoscience Australia project members to work with the identified countries to define what skills base and knowledge are currently present and to determine what key geoscience capabilities should be focussed on during the program. The visits will allow a baseline assessment to be developed of the current status and availability of geoscience datasets within each country. The visits will also be used to identify any infrastructure/capacity issues with respect to the management, analysis and dissemination of data, as well as systemic issues with respect to data access by relevant stakeholders.

	Stage 1a (1 – 6 months)	**Stage 1b** (7 – 12 months)	**Stage 2** (years 2 and 3)
Activity	Short-term missions to between 4 and 6 countries.	Program design workshops with up to 3 countries.	4 program visits by 2 GA staff per country per year.
			2 exchange visits to GA by 2 staff from each partner country per year.
Outcomes	Establish collaborative relationships with identified countries.	Decision to engage with up to 3 countries for Stage 2.	Develop collaborative relationships with partner countries.
	Baseline assessment of existing datasets and current information management systems and infrastructure for 4 to 6 countries.	Completion of detailed scope including goals, objectives, outcomes, monitoring and evaluation for Stage 2 with selected countries.	Engagement in the development of capability in identified and agreed focus areas.

Table 1: Proposed timeline for Geoscience Australia Government Mining Linkages Program.

Following these visits, formal programs will be established with up to 3 countries (depending on the funding scenario, see below) where Geoscience Australia, together with State and Territory government agencies as appropriate, can provide the most direct capability/technical assistance and where the collaboration is most likely to result in successful outcomes. Stage 1b of the program will include workshops with these partner countries to design a detailed project plan for Stage 2 of the program (years 2 and 3). Where possible, in order to promote skills and knowledge transfer, all aspects of this program will involve technical experts from the government geological agency (or equivalent) within the partner countries.

Although the details of Stage 2 of the program will depend on the current capability and capacity of the partner countries, some potential areas for focus could include supporting partner countries to:

- Identify, collate and catalogue all currently available geoscience datasets, maps and reports.
- Develop data management and web delivery systems for existing datasets, maps and reports.
- Learn and develop tools and techniques to integrate and model various datasets to improve regional mineral prospectivity assessments.
- Participate in key mineral workshops/short courses to provide staff with new geoscience concepts and approaches.
- Develop sustainable training/development programs within their organisations to retain and increase staff capacity.
- Identify gaps in current data coverage and document key new datasets which could be acquired to sustainably improve mineral prospectivity.
- Adapt processes for the development of consistent industry-standard resource reporting frameworks and approaches for estimating mineral commodity reserves and resources.
- Develop linkages and working relationships with Australian State and Territory government agencies and research institutions for areas of key expertise.

Program Proposal Budget

An initial budget estimate for the 3 year program has been developed for 2 scenarios, based on the size of the program. Scenario 1 (Table 2) is based on initial visits to 4 countries (Stage 1a) and then program implementation with 2 countries (Stage 1 b and 2).

	Year 1 ($)	Year 2 ($)	Year 3 ($)	Total ($)
1 GA Team Leader salary *	309,008	318,279	327,828	955,116
3 GA technical project member salaries*	780,076	803,478	827,582	2,411,136
Short-term mission - Country 1 (2 staff)	16,000			16,000
Short-term mission - Country 2 (2 staff)	16,000			16,000
Short-term mission - Country 3 (2 staff)	16,000			16,000
Short-term mission - Country 4 (2 staff)	16,000			16,000
Workshop trip - Country 1 (2 staff)	16,000			16,000
Workshop trip - Country 2 (2 staff)	16,000			16,000
4 Follow up trips/year - Country 1 (2 staff)		64,000	64,000	128,000
4 Follow up trips/year - Country 2 (2 staff)		64,000	64,000	128,000
2 exchange trips/year - Country 1 (2 staff)		52,000	52,000	104,000
2 exchange trips/year - Country 2 (2 staff)		52,000	52,000	104,000
Acquisition of new pre-competitive data#				
Software/hardware infrastructure#				
	1,185,085	**1,353,757**	**1,387,410**	**3,926,252**

Table 2: Scenario 1 budget proposal for Geoscience Australia Government Mining Linkages Program.

*salary calculations based on the Geoscience Australia cost model.

#any cost requirements for these items will be identified during Stage 1b workshops with selected partner countries.

In years 2 and 3, the program would include four trips by 2 Geoscience Australia staff to each partner country per year, and two exchange visits by each partner country for 2 staff to Geoscience Australia or associated organisations per year. This budget proposal also includes the salary cost for 4 Geoscience Australia staff to work with partner countries - 1 Team Leader and 3 technical project members (preferably a geologist, geophysicist and data management officer).

Scenario 2 proposes a larger program (Table 3), with initial visits to 6 countries (Stage 1a) and then program implementation (Stage 1b and 2) with 3 countries, involving 6 Geoscience Australia staff on a full-time basis (1 Team Leader and preferably a geologist, geophysicist, resource analyst, data management officer and software engineer). The number of trips and exchanges proposed per partner country per year is the same as for Scenario 1.

	Year 1 ($)	**Year 2 ($)**	**Year 3 ($)**	**Total ($)**
1 GA Team Leader salary *	309,008	318,279	327,828	955,116
5 GA technical project member salaries*	1,300,127	1,339,130	1,379,303	4,018,560
Short-term mission - Country 1 (2 staff)	16,000			16,000
Short-term mission - Country 2 (2 staff)	16,000			16,000
Short-term mission - Country 3 (2 staff)	16,000			16,000
Short-term mission - Country 4 (2 staff)	16,000			16,000
Short-term mission - Country 5 (2 staff)	20,000			20,000
Short-term mission - Country 6 (2 staff)	20,000			20,000
Workshop trip - Country 1 (2 staff)	16,000			16,000
Workshop trip - Country 2 (2 staff)	16,000			16,000
Workshop trip - Country 3 (2 staff)	20,000			20,000
4 Follow up trips/year - Country 1 (2 staff)		64,000	64,000	128,000
4 Follow up trips/year - Country 2 (2 staff)		64,000	64,000	128,000
4 Follow up trips/year - Country 3 (2 staff)		80,000	80,000	160,000
2 exchange trips/ year - Country 1 (2 staff)		52,000	52,000	104,000
2 exchange trips/year - Country 2 (2 staff)		52,000	52,000	104,000
2 exchange trips/year - Country 3 (2 staff)		60,000	60,000	120,000
Acquisition of new pre-competitive data#				
Software/hardware infrastructure#				
	1,765,136	**2,029,409**	**2,079,131**	**5,873,676**

Table 3: Scenario 2 budget proposal for Geoscience Australia Government Mining Linkages Program.
*salary calculations based on the Geoscience Australia cost model.
#any cost requirements for these items will be identified during Stage 1b workshops with selected partner countries.

For both scenarios, the current proposal does not include any budget for the acquisition of new pre-competitive geoscience data, or for purchase of software/hardware data information and analysis tools. However, a requirement for data acquisition and/or equipment for training purposes may be identified during the planning workshops with selected partner countries.