

Resourcing Future Generations – Update 5 December

Dr Ian Lambert, Secretary General, International Union of Geological Sciences (IUGS)

Rationale

IUGS' New Activities Strategic Implementation Committee (NASIC) is scoping the proposed new initiative, Resourcing Future Generations (RFG), which is predicated on the fact that mining will continue to be an essential activity to meet the needs of future generations. RFG is aimed at identifying and addressing key challenges involved in securing natural resources to meet global needs post-2030.

NASIC is to prepare a report for consideration by IUGS Executive Committee at its meeting in Goa, February 2014. It considers that mineral resources should be the initial focus, but energy, soils and water resources should also be covered. It also considers that addressing the multi-generational needs for mineral and other natural resources requires data, research and actions under four general themes:

- 1. Comprehensive evaluation and quantification of 21st century supply and demand**
2. Enhanced understanding of subsurface as it relates to mineral (energy and groundwater) resources
3. Evaluation of where additional natural resources are likely to be found
- 4. Building additional capacity and other actions to facilitate delineation and responsible development of natural resources in less developed nations**

Of these, Themes 1 and 4 have been judged the most important for RFG, and only these have been progressed.

A goal of RFG is to be accepted as an independent, international 'honest broker' which can improve the ability of developing nations to create socioeconomically responsible world-class and regionally self-sufficient mining industries, circumventing potential concerns about the roles of some individual countries and organisations. This would be facilitated by IUGS' good links with UNESCO.

Discussions are planned with UNESCO and ICSU, with a view to confirming support for RFG, which will provide vital support in approaches for funding to World Bank, Belmont forum, etc. Further initial contact has been made with Dr Sospeter Muhongo, Tanzania's Minister for Energy and Minerals (and former nominee for President of IUGS) and Dr Gabi Schneider, Head of the Namibian Geological Survey, concerning multidisciplinary work in selected demonstration regions in Africa.

RFG will need to involve researchers, academics, government agencies, industry and international facilitation and funding groups. It should work in complementary ways with/provide more coordination for existing initiatives such as OneGeology, IUGS' Commission for Geoscience Information/GIRAF, AEGOS, African Mining Vision, International Mining for Development, and Commission for the Geological Map of the World. A dialogue has commenced with the distribution of information on the RFG concept to these groups.

Theme 1 Resource flows

It is proposed that this could be progressed through a Delphi approach, drawing on research and data compiled by various experts, in conjunction with the International meeting planned to formally launch RFG, in China, late 2014. Dr Damien Giurco of the Institute of Sustainable Futures, UTS, Sydney has been asked to provide a concept note on what should be done.

This work could be submitted for consideration for inclusion in the Future Earth initiative led by the International Council for Science (ICSU).

Theme 4 Data and skills for regional development of Earth Resources

A high proportion of the mineral resources that will need to be mined in the future are in underexplored, less developed regions. Any goals or visions for the future that simply ignore mining, or assume it will phase out, will be seriously compromised. Responsible production of natural resources needs to be accepted as a pathway to regional/national development.

The holistic regional planning required for responsible mining in less developed regions has been commonly hampered by a general lack of infrastructure, governance, geological knowledge and trained workforce necessary to undertake the large scale minerals assessment and mining efforts that can responsibly and equitably supply future generations. There is a need to clearly articulate needs and aspirations - moving beyond the paradigm of development aid, which has clearly not worked over the past 50 years, to partnerships based on specific needs.

At the mid-November meeting of the GeoUnions under the International Council for Science (ICSU) IUGS proposed collaboration in implementing theme 4 of RFG, through facilitating holistic regional development planning in selected demonstration regions. The GeoUnions agreed in principle to (i) contribute to a range of data layers for selected demonstration regions – particularly geology, soils, water, land cover and digital elevations, along with socioeconomic inputs; (ii) prepare a proposal on this for consideration for inclusion in the ICSU led Future Earth initiative, noting that the geoscientific data, skills and infrastructure required for locating mineral and energy have wider public-good applications, *inter alia* for groundwaters, environmental protection and rehabilitation, building cities and infrastructure, understanding soils and landforms, mitigating hazards and risks.

RFG could:

- Spread knowledge of the benefits of responsible mining and comprehensive regional development planning, and lobby for inclusion of responsible production of natural resources as a pathway to Sustainable Development.
- Address negative perceptions of mining in many areas, possibly including endorsing high level international principles for responsible mining activities, as a fall-back where nothing better is in place.
- Show how tensions between mining activities and other land uses, like agriculture, can be addressed.
- Support /facilitate/coordinate training programs on geological mapping and regional scale assessments to locate potentially resource-rich areas as a first step to better characterizing under-explored areas.
- Encourage/support learning opportunities in which students from developing/emerging countries can gain and subsequently return home with expertise in geology, engineering and other mining-related fields.

Important socioeconomic inputs could be provided through the International Geographical Union and the International Mining for Development Centre (IM4D, Australia).

Comments and suggestions are invited – these should be emailed to:

edmund.nickless@geolsoc.org.uk. Inputs received by 25 January 2014 will be taken into account by the IUGS' Executive in deciding on the next steps.