

Resourcing Future Generations – Update 26 November 2013

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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 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

Most progress has been made recently in scoping opportunities for theme 4, under the working title: **Data and skills for regional development planning**, including consideration of inclusion of at least part of this RFG theme in the developing Future Earth initiative led by the International Council for Science (ICSU).

Data and skills for regional development planning

Parts of developing world undoubtedly host rich, untapped mineral deposits. In fact, a high proportion of the mineral resources that will need to be mined in the future are in underexplored, less developed regions. This cannot be ignored in deliberations of the future. 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 global Sustainable Development. Mining needs to be an integral part of regional/national development planning in less developed regions.

The holistic regional planning required for responsible mining 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.

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 and by linking this theme with FE.

At the mid-November meeting of ICSU's GeoUnions, 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 soils, water, land cover and digital elevations, along with socioeconomic inputs; (ii) prepare a proposal on this for consideration for inclusion in the Future Earth initiative – the Chair of FE Scientific Committee has expressed his informal view that such an activity would be relevant to FE, and 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, and even mapping biodiversity domains

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, African Mining Vision and Commission for the Geological Map of the World.

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.

Resource flows

Parts of RFG theme 1 – resource flows – could be considered as second proposal for inclusion in Future Earth, following an expression of interest from the Chair of the FE Scientific Committee. This could be progressed through a Delphi approach, drawing on research and data compiled by various experts, possibly in conjunction with the International meeting planned to formally launch RFG, in China, late 2014.

Other RFG themes

There is no progress to report on RFG themes 2 (enhanced understanding of the subsurface) and 3 (resource potential evaluations), other than in respect to theme 4.

Next steps

1. An updated NASIC report will be considered by IUGS Executive at its meeting in Goa in February. There has been concern expressed by a minority of EC members about the emphasis on mining, which will hopefully be reduced by the inclusion of other GeoUnions and the emphasis on holistic regional planning in less developed countries. The latter need to be firmed up and included in a submission to ICSU/Future Earth.
2. Discussions scheduled with UNESCO and ICSU will be held in December and February, with a view to confirming support for RFG, which will provide vital support in approaches for funding to World Bank, Belmont forum, etc.
3. Contact Sospeter Muhongo, Tanzania's Minister for Energy and Minerals (and former nominee for President of IUGS) concerning multidisciplinary work in selected demonstration regions in Africa. Also contact Maartin de Witt, originator of the concept of African Development Corridors and Gabi Schneider, Head of the Namibian Geological Survey. Look into a possible RFG announcement during Young Earth Scientist (YES Network) meeting in Tanzania, August 2014.
4. Begin discussions about mutually beneficial links with representatives of a range of current activities relevant to RFG.
5. On confirmation of the Chinese funding, agree on concrete plans for theme 1 and the RFG launch meeting, potentially dovetailed with China Mining in October 2014.