

ALTERNATIVE APPROACHES TO SUSTAINABLE DEVELOPMENT: IMPLICATIONS FOR MINERAL RESOURCE MANAGEMENT

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The Earth Summit held in Rio de Janeiro in 1992 brought the concept of sustainable development to the attention of the world. The scientific community took notice and in the ensuing years the body of literature addressing issues of sustainability grew significantly. Three recurring themes underpin much of this work: 1) the limitations imposed by resource constraints, 2) the extent of environmental impacts stemming from anthropogenic actions, and 3) the importance of intergenerational equity. Different conceptual approaches have emerged that attempt to operationalize the sustainability paradigm. Among the most well known of these are pressure-state-(impact)-response model developed by OECD and the UN; the genuine wealth model developed by World Bank; and the sustainability barometer developed by IUCN. Each approach reflects the values and perspectives of the author's organization, and emphasizes a different theme. This has implications for the manner in which mineral resource sustainability issues are handled. In this paper we introduce each of the three conceptual approaches, describing both their orientations and outputs. We next discuss how mineral resources are handled in each and then consider the implications for sustainable mineral resource management of choosing one approach over another. We conclude that no single approach is adequate to capture and fairly represent the complex issues associated with mineral resource-related activities and therefore recommend a combined and extended approach.