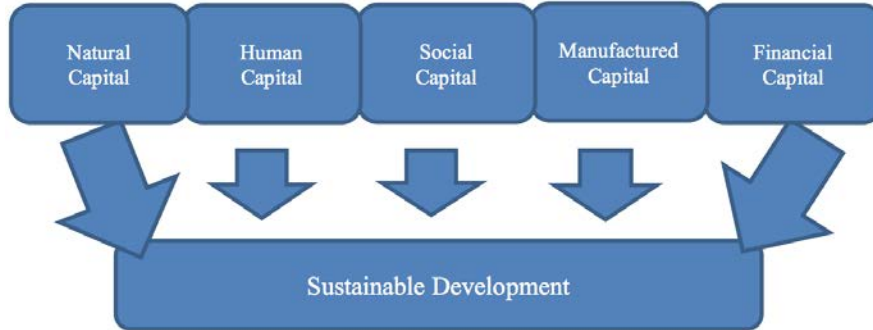


Project Overview:  
**APPLICATION OF THE FIVE CAPITALS FRAMEWORK  
TO THE MINERAL RESOURCES SECTOR OF MONGOLIA  
TO SUPPORT SUSTAINABLE DEVELOPMENT**

**The 5 Capitals for Sustainable Development**



The Five Capitals is an assessment framework of the contributions of mineral resources to sustainable development.

**Natural Capital** “is made up of the resources and ecosystem services of the natural world”. **Human Capital** “refers to the productive capacities of an individual, both inherited and acquired Capital through education and training”. **Social Capital** “is the most controversial and the hardest to measure, [and] consists of a stock of Capital trust, mutual understanding, shared values and socially held knowledge”. **Manufactured Capital** consists of physical assets generated by applying human productive activities to Natural Capital and is capable of providing a flow of goods and services”. **Financial Capital** “facilitates economic production, though it is not itself productive, referring rather to Capital a system of ownership or control of physical capital”<sup>1</sup>.

**Overall Project Objectives**

The Five Capitals framework is proposed as an integrated and multidisciplinary approach to supporting sustainable development with consideration of how mineral resources can contribute to the Natural, Human, Social, Manufactured and Financial Capitals. This project aligns with BRIMM’s strategic goals that aim to: a) Engage with the minerals industry to identify new and relevant areas of multidisciplinary research and b) Motivate new integrated and multi-disciplinary research across the full mine cycle.

**Our Team**



Dr. Bern Klein



Dr. Julian Dierkes



Dr. Nadja Kunz



Dr. Andre Xavier

<sup>1</sup> Goodwin, N. R. (2003) *Five kinds of capital: useful concepts for sustainable development*. Global Development and Environment Institute Working Paper No. 03-07. Tufts University.

## Project Objectives



### **Natural Capital (Bolormaa Purevjav)**

- Compare different water resources management approaches and understand unique characteristics of each.
- Evaluate current practices of mining projects w.r.t. their use of water resources and contribution to sustainable development.
- Identify specific water related research topics that will inform the research road map for Mongolia.



### **Human Capital (Angarag Otgonbayar)**

- Compare the MUST and GMIT mining curriculum with the curriculum of other international mining programs (e.g. Canada, US, and Australia)
- Review educational curricula that relate to mineral resources across different disciplines, such as law, political science, engineering, natural and environmental management, sciences, business, economics, sociology, and anthropology.
- Create an interdisciplinary research roadmap for the Mongolian mining industry that contributes to sustainable development.



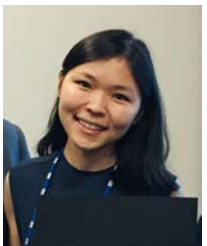
### **Social Capital (Damdinnyam Gongor)**

- Evaluate the roles and responsibilities of regional, national and local governments with regards to mineral resources development.
- Evaluate the roles and responsibilities of the government (national, regional and local), the mining sector, and the civil society with regards to the management of mining royalties and revenues systems.
- Analyze how local citizens and other stakeholders are involved in the decision making process pertaining to mineral resources development at a local levels.



### **Manufactured Capital (Dr. Lena Patsa)**

- Map the contributions to Manufactured Capital (in terms of transportation, water and energy) mining activity has already made to Mongolia.
- Investigate how contributions to Manufactured Capital correlate to regional socio-economic development in mining regions.
- Create a set of recommendations of how the mining sector can contribute to local and regional Capital.
- List key research areas that will advance Manufactured Capital.



### **Financial Capital (Aligermaa Bayarsaikhan)**

- Evaluate Mongolia's current approach to managing its resources.
- Identify key areas of research and develop a methodology geared towards alleviating Mongolia's over- reliance on mineral extraction.
- Identify key areas of research and develop a methodology geared towards diversifying Mongolia's economic structure for the long run.

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