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Inclusive wealth as a metric of sustainable mining: a case study in the platinum sector

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2017

https://hdl.handle.net/10539/25139

Pabwe, Irene Vimbai (2017) Inclusive wealth as a metric of sustainable mining : a case study in the platinum sector, University of the Witwatersrand, Johannesburg, https://hdl.handle.net/10539/25139

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ABSTRACT

Challenges in the mining and extractive sector include their ability to show that they contribute towards the welfare and well-being of the present generation without compromising the potential benefits of the future generation to enjoy a better quality and standard of living from their environment. This research aims at establishing whether Inclusive Wealth, an approach to assessing of sustainable development originally for use at the national scale, is applicable and useful when applied at the scale of an individual mine, i.e. locally. A case study of Mogalakwena platinum mine is carried out. The concept of Inclusive Wealth allows that sustainability objectives can be achieved in an extractive industry provided that natural capital (in the form of mineral resources, in this case) is converted into other forms of capital, such as social and manufactured capital, efficiently and thus does not result in a net loss of total ('inclusive') wealth, where wealth is consistently defined as the potential to deliver future benefits.

The Inclusive Wealth framework has been criticised for its theoretical assumptions and gaps in data availability. This research project shows that Inclusive Wealth has the capacity to act as satisfactory sustainability indicator at a local level, despite being better explored and thus more comprehensive at a national level.

The objective of the research was to calculate inclusive wealth impacts of Mogalakwena Platinum mine in order understand the balance between social, environmental and financial objectives. It also looked at the changes in Natural Capital over time, throughout the life cycle of the mine, through quantifying the time course of flows of key ecosystem services. The research also looks at the background of sustainable development, debates around sustainability and ecosystem services and their valuation. Desktop research was conducted with use of company reports, Environmental Management Programme Reports, Sustainability Reports, financial or stock market reports. These indicators derived from these sources were projected for the lifetime of the mine.