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Overview of abandoned mines in South Africa

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The South African economy benefits from the exploitation of mineral resources. There is however concern about the negative legacies left through the exploitation and processing of these minerals. In order to address the negative legacies from abandoned mines, the National Government of South Africa introduced the "Programme for the Management of Derelict and Ownerless (D&O) Mines of South Africa". The programme aims at reducing the South African state liability with respect to abandoned mines to a negligible level through updating the existin database, field verification, risk ranking and rehabilitation prioritisation. Specialist studies are being conducted on prioritised abandoned mines to be able to determine and quantify the impacts on the environment. This is essential for the selection of the appropriate rehabilitation techniques and monitoring. The specialist studies; Geochemical investigations; Geohydrological investigations; Dust and air quality studies; Geochemical studies; Phytoremediation techniques; Environmental studies on areas impacted by acid mine draianage (AMD), subsidence and spontaneous combustion; and Hydrological assessment of abandoned mines. To address the physical threat to people and animals due to these abandoned mines, the National Government of South Africa is closing a number of dangerous mine openings. This is also aimed at preventing or reducing water ingress into the mine openings, illegal mining, accidents such falling of kids into the shafts and to increase the land usability. This article will also highlight some of the successes and improvement needed to address these challenges. Furthermore, it will also demonstrate how scientific investigations are helping in providing guidance on environmental management policies, legislation and measures to strengthen environmental compliance in South Africa.

Biography

Khodani Matshusa completed his Master's from University of Venda and is currently doing his Phd studies at University of Johannesburg. He is a Scientist-Team Leader at Council for Geoscience, a state owned geoscience research organization. He has published more than 11 papers in reputed journals and has been involved in several national and internal projects.

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