

Mining

Keywords

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Introduction

The proposed mining of sand dunes on the Wild Coast of South Africa, located within the Mgungundlovu and Amadiba tribal administrative area, was due to take place in the late 2000s. This 22 kilometer (km) stretch of coastline is one of the few remaining pristine environments in South Africa and was recognized for its potential for the mining of titanium based products from coastal sand dunes. This project became known as the "Xolobeni Heavy Minerals Sands Project" with major products including titanium, ilmenite, zircon, rutile and leucocene. The idea to mine these sand dunes in particular was proposed by a small Australian mining company known as Mineral Commodities (MRC) and its local subsidiary, Transworld Energy and Mineral Resources (TEM). This proposal generated significant amounts of attention during its inception phase in South Africa particularly owing to narrow interests of the project, lack of local economic development, the unknown consequences to biological and ecological components, and unequal power relations.

The proposal of mining brought about a unique debate in relation to the concept of 'sustainable development' where those in favour of mining saw the proposal as positive, creating development in the Transkei, a historically marginalized community that is extremely poverty-stricken. Those who were against it however, saw the development as causing too many impacts on the natural environment and not benefitting local communities enough. Included within the mining project at Xolobeni was the proposed development of the N2 road, which was seen to be key to unlocking development within the Eastern Cape.

Environmentalists (Figure 1) have strongly opposed this development, using major environmental degradation as their main argument. An extensive EIA (Environmental Impact Assessment) process was needed to determine the pros and cons of the mining to the environment, economy and society around the development and the



Heavy metal and mineral mining proposed in the Wild Coast, South Africa
<http://www.miningweekly.com>

outcomes of this EIA will be explored in the following sections.

Background

The proposed mining site is located in the Eastern Cape Province in South Africa and is located about 250 kilometers from Durban. Port Edward is the closest coastal town which is approximately 8 kilometers from the northern boundary of the mining area. The mining site lies within the Amadiba area which is made up of two distinct tribal areas: the coastal area (Mgungundlovu) and the inland zone. The Amadiba area is tribal owned land and there is one single chief (Chief Lunga Baleni as at 2009). The Amadiba tribal land falls within the Pondoland Centre of Endemism which is the 2nd most species rich floristic region in South Africa and is over 1880 square kilometers (km) in area and extends 16 km from the coast. A national biodiversity strategy and action plan was implemented as this area was recognized as a biological hotspot for biodiversity. The Wild Coast is a hub for tourists and in particular eco-tourists. The predominant vegetation is the Pondoland-Ugu Sandstone Coastal Sourveld, which covers about 95.7% of the area proposed to be mined. The major rivers of the area are the Mzamba, Mphalana, Mnyameni, Sikhombe, Kwanyana and the Mtentu. These rivers lead to estuaries at the coastline with an average of 13-21 fish species and are nursery grounds for juvenile species. There are also several wetlands present in the proposed mining area.



The Mbizana municipality which is the location of the proposed mining site has a population of about 244 986 individuals and has very low education levels (27% with no formal education). The population is also very young with 46% of the population less than 15 years old; there is also a very high unemployment rate (88%).

The Mining at Xolobeni

Environmental and Social Impacts

TEM planned to mine about 360 million tonnes (t) of sand from sand dunes along the proposed site in the Eastern Cape. It is important to note that only 5% of the total tonnage of sand dunes contained heavy metals however 65% of these heavy metals were commercially feasible. As mentioned above, sand dunes contain ilmenite, rutile, zircon, leucocene and titanium. These resources are used extensively in paint pigments, ceramics and specialist glass. Overall, 885 hectares would need to be excavated for the heavy metals to be extracted. Environmental impacts included significant amounts of topsoil loss, siltation of wetlands, eutrophication and loss of biodiversity. Furthermore, it was estimated that the proposed mining would consume about 13-15 million cube metres (m³) of water per year during mining. The mining operation would also need boreholes to be constructed with groundwater levels being compromised. Titanium compounds aid in the absorption of nitrogen in plants: Without titanium, plant growth would be significantly decreased and rehabilitation after mining improbable. The disruption of social networks and compromising of residents livelihoods are some of the possible social impacts. The air quality could be severely deteriorated leading to significant health impacts of residents. High levels of dust together with noise and light pollution were also envisioned negative impacts of the mining

operations. parturient montes, nascetur ridiculus mus. The influx of people to the area in search of employment could have led to increases in crime, prostitution, drug and alcohol abuse. Tree-felling would also increase because of the expected increases in the demand of fuel owing to the influx of people into the area seeking employment. From a livelihoods perspective, 62 huts of residents are located within the vicinity of the demarcated mining area and would have probably been affected by sand mining. These people would have been removed and compensated for moving by MRC and TEM.

It is also very unclear about the economic opportunities that will result from mining. The mining of economically viable resources such as ilmenite, rutile, zircon, leucocene and titanium only provide local employment which is short term while resulting in increased environmental degradation. This could be particularly harmful to residents in the proposed demarcated mining area as they live very closely to the land and consequently their livelihoods are dependent on a pristine environment. Lastly, mining in the area would cause a loss of identity of the area and tribal authority (changing a society's structure to make it more materialistic from a society whose livelihood is traditionally closely linked to the land). It means that a society is likely to be destroyed and their norms of existence changed.

Conflict and Consequences

GCS (Groundwater Consulting Services) is an environmental consulting firm that is present in South Africa and undertakes a variety of services, including the EIA (Environmental Impact Assessment) for Mining at Xolobeni, and an EMP (Environmental Management Plan) and scoping assessment. The validity of the environmental assessment procedure itself was



Figure 1: Community outrage at the proposed mining in the Wildcoast, South Africa and the NGO group (Sustaining the Wild Coast) <http://www.swc.org.za>

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questioned due to the pro-development focus of those carrying out the assessment. Important irregularities were found within the EIA studies, and the process was criticized for being incomplete, providing inadequate information, and insufficient opportunities for community interaction in the decision making process. The locations, character and content of the meetings were also criticized for example, for not being accessible enough for local communities to attend, and for being structured / organized in a way that did not allow for residents to interact to their full capacity. The social impact assessment was also seen as unfair, failing to ensure adequate participation by affected communities. All of these observations point to a failure to adhere to correct environmental procedures, indicating an alignment with development hegemony, and a systematic exclusion of alternatives such as ecotourism.

Current State of Mining at Xolobeni Project

Australia-based MRC has decided to move their mining interests to the western coast of South Africa, known as the Tormin mineral sands project. The project deals primarily with the mining of zircon, rutile and ilmenite. In the Eastern Cape, MRC has reapplied for the mining prospecting rights for the Kwanyana block of the Xolobeni project which has an estimate 9 million t of ilmenite.

African National Congress secretary-general Gwede Mantashe last year called on mayors and councilors in the Wild Coast region of the Eastern Cape to unite behind the granting of licenses for mining in the area to unlock the development potential and benefit poverty-stricken communities" (Moolman, 2013). There is still much conflict between local authorities and communities from the Amadiba clan where they have laid allegations against MRC of intimidation of indigenous people in order to gain mining licenses and mining rights of ancestral land. MRC have stated that they would like to have the support of the community

however they believe that this is not possible. Furthermore, currently, MRC continues to work with the community with consultations on the impacts and benefits of mining in Xolobeni.

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