**The contradiction of “mining for poverty alleviation” within a context of water scarcity: a case study of Namibia**

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**Abstract**

*Based on the premise that water is a central component of poverty reduction, this paper scrutinises the concept of “mining for poverty reduction” associated with the economic growth model of development, owing to the adverse impacts of mining on water supplies. Using Namibia as a case study, this research illustrates how international institutions such as the World Bank have championed large industrial activities such as mining in so-called “developing” countries, in order to foster economic growth, which is then assumed to contribute to poverty reduction. Within a context of increasing global water scarcity and intra-state inequality, however, the concept of “mining for poverty reduction” seems to be a contradiction. As the case study of Namibia illustrates, the adoption of this economic growth model of development and its associated “mining for poverty reduction” imperative, has in actual fact exacerbated inequality by reducing the access of the poor to potable water in three ways: (1) through the commercialisation of water supplies which is considered necessary to the creation of an enabling environment for foreign private investment by mining companies; (2) through the consumption of vast quantities of water for mineral processing; and (3) through the pollution of remaining water supplies by chemicals used in the leaching process. The ever-consuming nature of growth is therefore something which must be scrutinised in a country of environmental and socioeconomic extremes like Namibia.*

**Introduction**

Since the mid-1980s, the Bretton Woods Institutions have encouraged so-called “developing” countries to undertake industrial projects which contribute to economic growth, owing to the neoliberal assumption that economic growth contributes to poverty reduction. One project assumed to foster economic growth for poverty reduction is mining. The concept of “mining for poverty” reduction has become so pervasive that it can now be found in the policy documents of many regional development banks and national governments. In countries experiencing water scarcity such as Namibia, however, the concept of mining for poverty reduction is deeply problematic. Water accessibility is a central component of poverty reduction, particularly in arid countries such as Namibia. Mining operations, however, severely reduce freshwater accessibility through: (1) the commercialisation of water supplies which is considered necessary to the creation of an enabling environment for foreign private investment by mining companies; (2) the consumption of considerable quantities of water for mineral processing; and (3) the pollution of remaining water supplies by chemicals used in the leaching process. Rather than contributing to poverty alleviation, as suggested by a number of development institutions, mining has instead contributed to the further entrenchment of poverty in Namibia, owing to the reduced accessibility of Namibian citizens to a resource which is central to life itself.

**Growth models of development**

The growth model of development is based on the assumption that economic growth leads to a “trickle-down” of wealth, thereby increasing the wealth of the poor. This model draws a causal relationship between economic growth and poverty reduction. It asserts that economic growth increases Gross National Product (GNP), providing individuals with higher incomes. These higher incomes enable people to increase expenditure on things like health and education which contribute to poverty alleviation.[[2]](#footnote-2) Furthermore, economic growth also generates additional fiscal resources that can be used to improve infrastructure and state social services such as healthcare and drinking water, thereby contributing to poverty alleviation.[[3]](#footnote-3)

Throughout the UN development decades which lasted from 1961 to 2000, and the subsequent UN Decades for the Eradication of Poverty, there has been a continued focus on economic growth as the means to achieve poverty alleviation. In December 2007, for example, the UN General Assembly proclaimed the Second Decade for the Eradication of Poverty (2008-2017).[[4]](#footnote-4) One of the resolution’s main focuses is on “the importance of accelerating…economic growth.”[[5]](#footnote-5) The resolution also recognises that: “economic growth is essential for eradicating poverty and hunger, in particular in developing countries.”[[6]](#footnote-6) From the Second UN Development Decade until the current Second Decade for the Eradication of Poverty, *neoliberal* economic growth in particular has informed models of development. In 2000, the World Bank, now a particularly prominent actor in the international development discourse, released a paper entitled “Growth is Good for the Poor”, advocating neoliberal economic growth through the development of industrial projects.[[7]](#footnote-7) The World Bank also asserts that these industrial projects are to be facilitated by neoliberal policies such as market liberalisation and privatisation. The prevailing view, therefore, is that neoliberal economic growth driven by large industrial projects contributes to poverty reduction.

**“Mining for Poverty Reduction”**

One industrial project which the World Bank has advocated as a stimulant for economic growth, and therefore poverty reduction, is mining. Through a number of policy documents disseminated by the World Bank, the concept of “mining for poverty reduction”, and therefore poverty reduction, has become highly pervasive; so much so that it can also be found in the policy documents of Regional Development Banks (RDBs) such as the African Development Bank (AfDB) and national governments such as the Namibian Government. According to the World Bank Group’s Mining Department, “Overall economic growth *per se* is a well-documented prerequisite to sustainable development and poverty reduction.”[[8]](#footnote-8) Furthermore, the Bank states that, “Growth in national income has been shown to benefit all groups, including the poorest…Thus, growth in GDP/capita…can also be expected to reduce poverty profiles overall.”[[9]](#footnote-9) Intuitively, the idea that mining can contribute positively to a country’s economic development makes sense.[[10]](#footnote-10) Mining is a highly profitable business. Lucrative natural resources, such as diamonds, uranium, copper and gold, can provide poorer countries with significant streams of revenue, contributing to economic growth.[[11]](#footnote-11) The causal logic is that mining leads to economic growth which then leads to poverty reduction through a “trickle-down” effect. A number of empirical studies, however, have found that countries which are rich in natural resources tend to grow more slowly than those with fewer natural resources.[[12]](#footnote-12) Furthermore, the World Bank found that “during 1990-99 there was a negative relationship between extractive industry dependence and economic growth for all WBG borrower countries…Twelve of the most mineral-dependent nations…are classified as Highly Indebted Poor Countries, with some of the worst rankings on the Human Development Index…”[[13]](#footnote-13) Despite the apparent flaws in the logic of “mining for poverty alleviation”, the Bretton Woods Institutions, particularly the World Bank, remain leading advocates of mining-led development.

**“Mining for Poverty Reduction” in Namibia**

In order to understand why the Namibian Government has adopted “mining for poverty reduction”, it is firstly necessary to understand the Namibian context. Namibia was colonised by the Germans in the late 1880s. During this era, the native people of Namibia were subjected to genocide, detention, dispossession, deportation, forced labour and racial segregation. South Africa occupied the colony during in 1915 following the defeat of Germany in World War I.[[14]](#footnote-14) In 1948, the South African Government introduced apartheid policies, intensifying the existing system of segregation imposed by the Germans. In the late 1950s and early 1960s, black and coloured Namibians were forcibly evicted from Windhoek city which was reserved for whites only. Coloured Namibia’s were settled in Khomasdal, a township located five kilometres outside of Windhoek, whilst the black population were settled in the adjacent township of Katutura.[[15]](#footnote-15) In addition to resettlement, apartheid policies also prevented black Namibians from owning land and gaining access to adequate education, sanitation and healthcare. The result of these apartheid policies was the creation of a highly dualistic society in which income and wealth were skewed toward the minority white elites.[[16]](#footnote-16)

Despite the end of apartheid, Namibia remains the most highly inequitable society in the world. Namibia’s Gini coefficient, which measures income inequality, is 0.74 which is the highest score in the world. [[17]](#footnote-17) According to the National Household Income and Expenditure Survey (NHIES) of Namibia, per capita income for the 90 percent of households with the lowest income is approximately $262, one hundredth of the $25,000 for the richest 2 percent of the households.[[18]](#footnote-18) 62.2 percent of the population currently lives below the $2-per-day poverty threshold.[[19]](#footnote-19) Currently, approximately half of Namibia’s population live below the international poverty line.[[20]](#footnote-20) Furthermore, 37 percent of Namibians are currently unemployed and a large proportion of the adult population is functionally illiterate.[[21]](#footnote-21) The nation has also suffered heavily from HIV/AIDS, with 15.3% of the adult population currently infected with the disease.[[22]](#footnote-22) The rural poor lack access to adequate health care, electricity, and food. Furthermore, 25 percent of the poorer rural population do not have access to improved water sources.[[23]](#footnote-23) This statistic is particularly notable when taking into account the fact that 70 percent of Namibia’s population reside in rural areas.[[24]](#footnote-24)

In line with the World Bank’s economic growth imperative, in order to alleviate poverty in Namibia, the Namibian Government has, among other activities, sought to foster economic growth.[[25]](#footnote-25) According to Namibia’s Third National Development Plan (NDP3), “The overall theme of NDP3 is ‘Accelerated *Economic Growth* and Deepening Rural Development’.”[[26]](#footnote-26) The NDP goes on to state that, “Without acceleration in economic growth, it is difficult for the country to...reduce poverty and attain equitable social development.”[[27]](#footnote-27) Vision 2030 also states that, “A condition of high economic growth...eliminat[es] duality in the economy and assures equity.”[[28]](#footnote-28) In line with the World Bank’s “mining for poverty reduction” imperative, the Namibia Government has sought to foster economic growth through the expansion of mining activities. Namibia is endowed with significant mineral resources including lead, tin, silver, diamond, tungsten, tin, copper and uranium. Mining forms the backbone of the Namibian economy. Although mining accounts for only 8% of the country’s GDP, it provides more than 50% of foreign exchange earnings.[[29]](#footnote-29) Namibia is the fourth-largest exporter of nonfuel minerals in Africa and the world’s fifth-largest producer of uranium.[[30]](#footnote-30) The sub-sector strategies of Namibia’s NDP3 to foster economic growth include “the promotion of the development of new mines.”[[31]](#footnote-31) Vision 2030 also states that, “mining continues to maintain its significant contribution towards Namibia’s socio-economic development.”[[32]](#footnote-32) The assumption of these two important documents therefore is that mining contributes to economic growth which then trickles down, thereby facilitating poverty alleviation.[[33]](#footnote-33)

**Water, Poverty Reduction, and Mining**

The ability to mine in a country, however, is dependent on the availability of water for the mineral processing stage of mining. While the availability of water is central to mining, it is also central to poverty alleviation. As stated in the Qur’an, “Water is the source of all life.” Water makes up approximately 60 to 75 percent of the human body and is essential to almost every biological process that sustains life on this planet.[[34]](#footnote-34) All known forms of life depend on water for life and sustenance. Without water, life cannot exist. Water is therefore central to the issue of poverty as it affects one’s basic human requirements, food security, livelihoods and health. Without water, one cannot grow food, cannot build housing, cannot stay healthy, cannot attend school, and cannot work productively. Water is so central to poverty alleviation that it forms one of the United Nations Millennium Development Goals (MDGs). MDG 7c seeks to, “Halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.”[[35]](#footnote-35) It is also a foundational component of all of the other MDGs. Without water, none of the other MDGs can be attained. Improving the accessibility to water therefore has the potential to make a major contribution towards poverty alleviation.

Namibia is the driest country in sub-Saharan Africa, with low rainfall and scarce ground and surface water. According to the International Institute for Environment and Development (IIED), Namibia is set to experience absolute water scarcity by 2020.[[36]](#footnote-36) Placing additional stress on water sources in Namibia is population growth and climate change. The fundamental truth about water in Namibia therefore is that it is an extremely scarce resource. As stated earlier, 25 percent of the poor rural population do not have access to improved water sources, and 70% of the population reside in these poorer rural areas.[[37]](#footnote-37) This lack of access to basic services such as water contributes to poverty country.[[38]](#footnote-38)

Rather than contributing to poverty alleviation in Namibia, mining has instead undermined poverty alleviation by reducing the access of the poor to adequate supplies of potable water in the following three ways:

1. *Water commercialisation*

In order to facilitate mining-led economic growth, the World Bank has advocated the creation of an “enabling environment” for private investment in Namibia. Included in this “enabling environment” is the privatisation of SOEs; in particular, the privatisation of water supplies.[[39]](#footnote-39) A privatised water supply allows mining companies to purchase water for mineral processing, rather than applying for costly and time-consuming resource consents from public suppliers. Furthermore, as mining consumes vast amounts of water, efficiency is of vital importance, especially in arid countries such as Namibia. It is a commonly held neoliberal rationality that a privatised water supply is more efficient than public supply owing to the fact that under private ownership water is an economic good which generates profit so the incentive to reduce wastage is heightened. The more efficient the supply, the more attractive the country becomes to foreign investors who require sufficient and predictable supplies of water for their businesses. Consequently, natural resource exploitation often goes hand-in-hand with the privatisation of the commons.

In Namibia, facing increasing pressure from the international development community, including the World Bank, IMF and the African Development Bank, to privatise its water supply, the Government commercialised its water supply. [[40]](#footnote-40) In other words, rather than the Department of Water Affairs (DWA) supplying water to regional authorities which would then distribute water to local communities, Cabinet chose to endorse both the Water and Sanitation Policy (WASP) and Water and Sanitation Committee (WASCO) guidelines which included the recovery of operation and maintenance costs for water supply through tariffs.[[41]](#footnote-41) Consequently, rather than relying on government subsidies of approximately N$300 million each year, costs are instead to be recovered from water users themselves.[[42]](#footnote-42) Commercialisation of water in Namibia was formalised in October 1997 when the government enacted the NamWater Act and registered the NamWater Corporation as a company in December that same year.[[43]](#footnote-43) Rather than the state paying for water provision, which had previously been the case, NamWater was charged with the ability to recover costs from the regional authorities by levying tariffs and these tariffs would then be recovered from the consumers. Although not yet completely privatised, as water in Namibia becomes increasingly commercialised it begins to take on the characteristics of a privatised entity. According to the Labour Resource and Research Institute (LaRRI), “the corporatisation of water services has resulted in a de facto privatisation of water supplies; cost recovery, water cut-offs, outsourcing and two-tiered water systems have become the order of the day.”[[44]](#footnote-44) This commercialisation or “de facto privatisation” of Namibia’s water resources is considered necessary to ensure efficient utilisation of water sources in order to supply mining companies with sufficient quantities of water for mineral processing.

However, the commercialisation of water supplies in Namibia is deeply problematic. The commercialisation of water supplies, considered necessary for the facilitation of mining companies, has contributed to decreased accessibility to water for many due to the associated cost recovery policy. Due to existing poverty, many people in Namibia are unable to afford to pay the cost recovery water tariffs. Associated with commercialisation have been price hikes and the installation of prepaid water meters. Firstly, price hikes have created an extra burden for consumers who cannot afford to pay for water, often forcing people to choose between paying for water or paying for school fees, clothing and food.[[45]](#footnote-45) In April 2000, NamWater hiked tariffs by 20 per cent and in mid 2002, tariffs were increased by a further 13 per cent, despite the illegality of this 33 per cent increase.[[46]](#footnote-46) For those who cannot afford to pay, which includes houses, schools and hospitals, water is cut off, sometimes indefinitely, exacerbating existing inequality.[[47]](#footnote-47) There have even been stories of forceful evictions and house auctioning of people already experiencing existing hardships such as inherited debt, unemployment and HIV/AIDS.[[48]](#footnote-48)

Secondly, the installation of prepaid water meters in the predominantly black townships of Katutura and Khomasdal to recover the costs of service delivery associated with commercialisation has served to further disconnect people from vital water supplies. What municipalities have chosen to overlook is the fact that the people living in these townships where prepaid meters have been installed are unable to afford water from prepaid meters. With high levels of unemployment and considerably low wages, many of the people in these communities are already living in poverty. This inaccessibility to water caused by the commercialisation of water in Namibia has forced many people to seek water from distant, unclean sources such as in the oshanas and cemeteries, leading to illness.[[49]](#footnote-49) Health is a significant cause for concern in Namibia with an estimated 200,000 people living with HIV and also having one of the highest adult HIV infection rates in Sub-Saharan Africa (19.6 percent).[[50]](#footnote-50) Namibia is also among the top three worst TB-affected countries in the world.[[51]](#footnote-51) Clean water is a necessity for those living with illness in order to heal. Owing largely to this policy of commercialisation, 17 percent of Namibia’s population does not have access to potable water.[[52]](#footnote-52) This 17 percent predominantly consists of those living in the townships. Thus, the policy of water commercialisation which is considered beneficial to mining operations and economic growth more generally, in actual fact exacerbates existing poverty in Namibia.

1. *Reduced quantity of total available water*

Mining has also undermined poverty alleviation through the consumption of vast quantities of water for mineral processing which has reduced the total quantity of water available to the rest of the population, particularly the poor. In the exploitation of uranium in Namibia, vast amounts of water must be used in the processing stages. Rossing uranium mine, for instance, consumes 3.3 million cubic metres of water per year, the equivalent of sustaining 28,000 people for five years.[[53]](#footnote-53) The uranium sector as a whole consumes approximately 10 million cubic metres of water a year and the projections currently predict that this will increase to 64 million cubic metres by 2015.[[54]](#footnote-54) AREVA’s Trekkopje mine requires approximately 25 million cubic metres of water per annum which is higher more than the demand of all of the consumers in the area combined.[[55]](#footnote-55) NamWater admitted in 2007 that it was unable to supply sufficient quantities of water for the Trekkopje mining project.[[56]](#footnote-56) Furthermore, the Namibian Government has just announced the approval of a mine which is set to use 75% of Namibia’s existing fresh water supplies.[[57]](#footnote-57) .[[58]](#footnote-58) Particularly problematic is the fact that the majority of these mines are located in the west which is the driest region of Namibia. Despite a rhetorical commitment to providing water to domestic users, in reality, this has not been the case with large amounts of water being allocated to mines, despite existing over-allocation. The use of water for mining therefore reduces the quantity of water available for domestic consumption, undermining poverty alleviation in the country.

1. *Water pollution*

Mining has also undermined poverty alleviation through the pollution of remaining water supplies by chemicals used in the leaching process. Mining involves the use of toxic chemicals in the leaching stage. There are allegations in Namibia that toxic chemicals such as sulphuric acid, which are used to leach ore from the rock, have leached into waterways via the tailings ponds, reducing the quality of water to an undrinkable state.[[59]](#footnote-59) According to Stephanie van Zyl of Enviro Dynamics,

Water pollution is of major concern to a lot of people. Rossing has been going on for years and people perceived their activities to be water-polluting…[T]here has been a lot of talk and a lot of arguments over the years about it…[I]t’s a perceived concern to a lot of people.[[60]](#footnote-60)

Once groundwater is polluted, pollutants can remain in the water for many years. Consequently, an almost artificial state of scarcity is being created whereby previously drinkable vital water supplies are now unfit for human consumption. Moreover, those residing in close proximity to the mines who are affected by water contamination tend to be the poorer rural communities who cannot afford additional healthcare payments and do not have the resources at their disposal to prove they are suffering ill-effects from mining operations. According to Hilma Shindondola-Mote, director of local NGO, the Labour Resource and Research Institute (LaRRI),

There has been dishonesty and as a result mining companies know that workers are not powerful enough to be able to prove this problem and they suffer in silence and even if they bring it up, it’s not going to be easy for them to prove that they’re ill because of their association with the mine.[[61]](#footnote-61)

Those who suffer the most from contaminated water in Namibia, therefore, are those who are unable to hold the mining companies accountable, thus perpetuating existing inequality.

**Conclusion**

Based on the premise that water is a central component of poverty reduction, this paper has scrutinised the concept of “mining for poverty reduction” associated with the economic growth model of development, owing to the adverse impacts of mining on water supplies. The World Bank has been a strong proponent of the development of large industrial activities such as mining in so-called “developing” countries, in order to foster economic growth, which is then assumed to contribute to poverty reduction. Within a context of increasing global water scarcity and intra-state inequality, however, the concept of “mining for poverty reduction” seems to be a contradiction. The adoption of this economic growth model of development and its associated “mining for poverty reduction” imperative in Namibia, has in actual fact exacerbated inequality by reducing the access of the poor to potable water through: (1) the commercialisation of water supplies which is considered necessary to the creation of an enabling environment for foreign private investment by mining companies; (2) the consumption of vast quantities of water for mineral processing; and (3) the pollution of remaining water supplies by chemicals used in the leaching process. Thus, rather than contributing to poverty alleviation, as suggested by a number of development institutions, mining has instead contributed to the further entrenchment of poverty in Namibia, owing to the reduced accessibility of Namibian citizens to a resource which is central to life itself.

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1. This paper constitutes the findings for research undertaken for my MA thesis which examines the contradiction of mining for poverty reduction within the context of water scarcity in Namibia. As such this paper constitutes a direct adaptation and summary of my MA thesis. As this paper contains material derived from my MA thesis which is yet to be submitted, I retain the right to submit information for my thesis which has been used in this paper. [↑](#footnote-ref-1)
2. Gustav Ranis, Frances Stewart and Alejandro Ramirez, “Economic Growth and Human Development,” *World Development* 28, no. 2 (2000), 198. [↑](#footnote-ref-2)
3. Sudhir Anand and Amartya Sen, “Human Development and Economic Sustainability,” *World Development* 28, no. 12 (2000), 2032. [↑](#footnote-ref-3)
4. United Nations, “A/RES/63/230 – Second United Nations Decade for the Eradication of Poverty (2008-2017),” http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N08/484/59/PDF/N0848459.pdf?OpenElement (accessed May 6, 2010). [↑](#footnote-ref-4)
5. Ibid. [↑](#footnote-ref-5)
6. Ibid. [↑](#footnote-ref-6)
7. David Dollar and Aart Kraay, “Growth is Good for the Poor,” *Journal of Economic Growth* 7, no. 3 (2002): 195-225. [↑](#footnote-ref-7)
8. World Bank and International Finance Corporation, “Treasure of trouble? Mining in developing countries,” http://siteresources.worldbank.org/INTOGMC/Resources/treasureortrouble.pdf (accessed July 22, 2010). [↑](#footnote-ref-8)
9. Ibid. [↑](#footnote-ref-9)
10. Scott Pegg, “Mining and poverty reduction: Transforming rhetoric into reality,” *Journal of Cleaner Production* 14, no. 3-4 (2006): 377. [↑](#footnote-ref-10)
11. Ibid. [↑](#footnote-ref-11)
12. Ibid., 380. [↑](#footnote-ref-12)
13. World Bank, “Striking a better balance: Volume I: The World Bank Group and Extractive Industries,” http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E985256FF6006843AB/$File/volume1english.pdf (accessed August 25, 2010). [↑](#footnote-ref-13)
14. Ibid. [↑](#footnote-ref-14)
15. The Nambian population remains highly segregated. 87.5% of the Namibian population are black, 6% are white, and 6.5% are coloured. Source: Central Intelligence Agency (CIA), “Namibia,” http://www.cia.gov/library/publications/the-world-factbook/geos/wa.html (accessed November 8, 2010). [↑](#footnote-ref-15)
16. World Bank, *Namibia: Country Brief* (Washington DC: World Bank, 2009), 2. [↑](#footnote-ref-16)
17. The Gini index is a measure of statistical dispersion which is used to measure wealth inequality. An index of 100 percent means a single person possesses all the income, whilst an index of zero means the country divides its income exactly equally among everyone. With a Gini coefficient of 0.74, Namibia’s level of inequality is amongst the highest in the world. Source: UNDP, “Human Development Report 2009 – Gini index,” http://hdrstats.undp.org/en/indicators/161.html (accessed November 5, 2010). [↑](#footnote-ref-17)
18. World Bank, *Namibia: Country Brief*, 2. [↑](#footnote-ref-18)
19. Ibid. [↑](#footnote-ref-19)
20. Ibid. [↑](#footnote-ref-20)
21. Ibid. [↑](#footnote-ref-21)
22. UNICEF, “Namibia – Statistics,” http://www.unicef.org/infobycountry/namibia\_statistics.html (accessed November 8, 2010). [↑](#footnote-ref-22)
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