

BRIEFING PAPER March 2022: RIO TINTO's QMM MINE MADAGASCAR

Introduction and Context



Local people in Anosy region claim that for the last ten years the quality of their water has deteriorated due to the presence of the mine (PWYP MG 2020) and they attribute this to pollution from the mine and construction of the QMM weir that has changed an occasionally brackish local lake into a freshwater lake. As a result, fisherfolk claim over 90% of local fish species have disappeared and consequently food security and livelihoods have declined (PWYP MG 2022). Compensation has not been delivered as expected, while fisheries projects initiated by

the mining company have failed. Last year Fisherfolk [protested against Rio Tinto/QMM](#) for loss of their livelihoods.

The poor water quality is also deemed to be the source of unexplained and increased illness in the community ([PWYP MG 2020](#), 2022). At least a quarter of inhabitants have already lost substantial amounts of their agricultural lands to the mine, and weaving and subsistence fishing have been negatively impacted by the destruction of the local environment and natural resources on which locals depend. 90% of the villagers in mine affected communities report the mine presents losses including: the inability to feed themselves, generate meaningful income, or put their children through school. Only a small percentage (2%) are deemed to gain from the QMM mine and the distribution of benefits is a source of intra-community conflict and threatens to undermine social cohesion (PWYP MG, 2022).

The environmental costs of the mine are carried by rural Antanosy populations who live in multidimensional poverty, and for 63% who submit complaints about their losses, and the deterioration of the water quality and natural environmental, the majority (90%) receive no response (ibid). Rio Tinto/QMM claim that they have been helping communities through seed-funding granted to local CSOs/NGOs but interviewed members of communities said that most of them did not benefit from such transfers and that proposed activities (small-scale farming, etc.) do not satisfy their needs nor fill the gaps caused by the mine (PWYP MG, 2022).

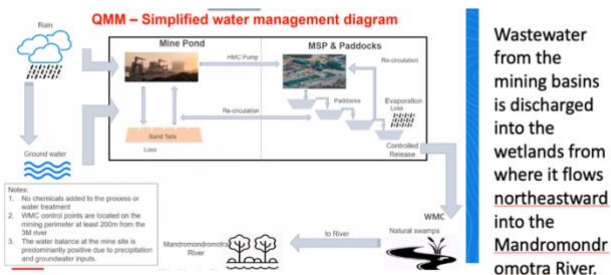
Water Quality and the QMM mine

The villagers' perceptions of the local water are supported by a series of [independent studies](#) that have demonstrated that the mine is having a detrimental impact on water quality in the region (Swanson, 2019; Emerman 2019, 2020, 2021). These studies have determined the presence of elevated uranium and lead in waters downstream of the mine, 50 and 40 times higher respectively than the WHO safe drinking water guidelines.

Unfortunately, Madagascar currently has no legal limits set for the discharge of uranium into the environment. Civil society argues that since the waters around Mandena are used for drinking and domestic water and also feed into the Lake Lanirano, which provides drinking water to the town of Ft Dauphin, WHO safe drinking water guidelines should apply.

This position is supported by the company's commitment registered under section 4.3.3., of QMM's Environmental Management Plan (PGEP, 2001), which states that in the absence of government standards with respect to water quality: "**Canadian guidelines and those of the World Health Organization (WHO) for the quality of drinking water will be used.**" QMM Plan de Gestion Environnementale (PGEP) 2001.

QMM Water management system



There are Malagasy limits for some heavy metals. In its Discharge Water Monitoring Data report (2021) QMM admit to exceedances of cadmium and aluminium *above the legal limits for discharge* in Madagascar.

Rio Tinto/QMM concedes that the QMM water management system is not working (see left). Consequently, QMM ceased all mine process water discharge in August 2020. The inevitable question has been

posed for over a year: "what will happen when the rains come"?

Cyclones and Mine Tailings Dam Failure, February 2022

Following two cyclones and heavy rains, the mine is no longer able to manage its water volumes as required. In February to March 2022, mine tailings dam failures were reported.

The first problem is that Rio Tinto does not own up to having a dam at the QMM mine. However, their SEMP 2014-2018 clearly shows a dam structure (illustrated as a "berm", which Rio Tinto has agreed has the same purpose as a dam). The company only admits to manage its mine tailings with an "excavated storage facility" at QMM, essentially stacked reject sands. The safety of the QMM dam has been raised multiple times and following [QMM's breach of a buffer zone](#) and the risk of seepage and overflow was studied and deemed by hydrologist Dr Emerman to be "unacceptably high", in relation to international standards (Emerman 2018).

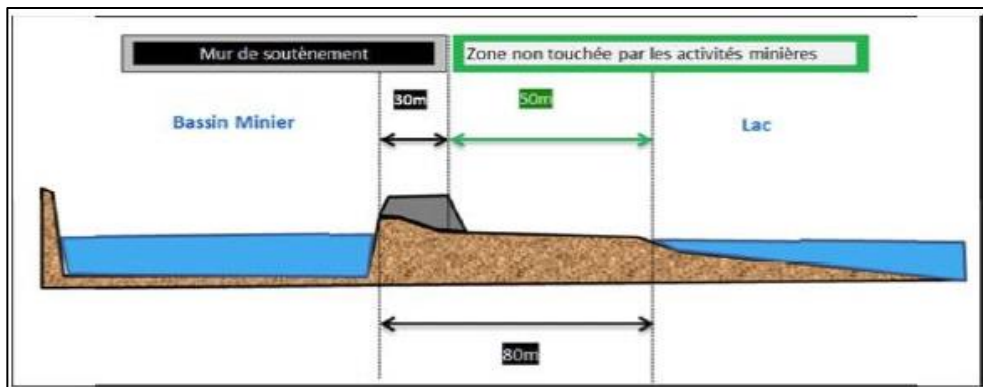


Figure 1 QMM berm or tailings dam as presented in its 2014-2018 SEMP

Secondly, although not compliant for discharging its mine process wastewater, from March 8th QMM began the release of water from its settling ponds or risked a complete collapse of the berm (dam). For this they secured an "exceptional" permission from the Malagasy water regulator, ANDEA. This accord does not exempt Rio Tinto/QMM from its responsibilities for any damage that is caused by the release and sets out a series of conditions including: creating water storage sites to treat water before its release; reinforcing the mine tailings dam ("berm") to be solid and waterproof; and compensation and decontamination for any impacts detected. The controlled release of a million cubic metres of mine wastewater will take place over seven weeks and the Government expects the local monitoring committee to be informed at each stage of the release.

These measures are prudent because the QMM mine basin water that is emptied into the QMM settling ponds contains elevated levels of radionuclides ([Swanson Memo 2019](#)). Locals are aware there are significant outstanding questions about water quality and the contamination of local waterways by the mine discharge.

Local Concerns

The recent overflow incidents have triggered significant concerns and issues for local people. On March 11th and 12th dead fish were found floating in the lake. The same happened after a QMM overflow incident in Dec 2018, which was investigated in 2019 by the National Environmental Research Centre (CNRE). At that time, the CNRE posited that the death of the fish could be caused by the presence of “brownish water” that overflowed from the mine’s “artificial swamps”¹ during a high rainfall event. The CNRE also posited that acidification in the swamps was most likely to blame for the fish deaths².



The CNRE said “*the phenomena of acidification and accumulation of metals in QMM basins requires deeper studies*” and called for “*Rigorous monitoring of heavy metal concentration levels in mining basins that may impact the natural environment.*” The CNRE report has never been published or made locally available (although requested by local and international civil society).

A representative of the municipality of Ampasy Nahampoana underlines the concerns of the population: “This is at least the second time that we have been victims of wastewater leaks. QMM’s mine operation is high up, and the stream that crosses our village is below. We fear that through infiltration, the radioactivity of these polluted waters from mining operations will contaminate our drinking sources. There should be a legal distance between the mining site and sensitive areas such as watersheds depending on the rate of infiltration. However, the QMM site is precisely located in a sensitive area, that is to say in a watershed! »

These concerns are shared by the inhabitants of Tolagnaro. Narcisse Razafimahatody of the Anôsy Miray association does not hide his concern “The whole district of Taolagnaro is concerned, because the city is supplied by the Lanirano river where other potentially polluted rivers flow. This is the water we consume every day!”

Ampasy Nahampoana, the first village concerned, is located about 3km from the basin where QMM is installed. An anonymous source explains to us: “About 500m around the dredge, we can already see deposits of sand. However, it is no longer natural sand. It is already the result of various industrial activity, and no doubt loaded with heavy metals. However, when there has been a spill, the waste water and the sand leak at the same time. It is close to Ampasy because visibly, the closed-circuit canal is established about forty meters from the water sources...”

The Governor of the region has told locals that no one can eat fish, or catch fish from the lake. Following a televised statement by the Ministry of Water, coupled with demands from the Governor of Anosy and local and international civil society actors, QMM is expected to provide emergency food and drinking water to villagers who largely depend on subsistence fishing for daily food and livelihoods.

Communications and claims

Communications around the incidents has been inadequate. Locals complained that QMM only announced they were releasing a million cubic metres of mine waste water *after* they had started to do so. It is quite possible that both QMM and Malagasy authorities would have hidden or suppressed news of the incident if PWYP MG’s team had not been on the ground on a fieldwork mission to Fort-Dauphin that very week, eye-witnessing the dead fish event at it occurred. These incidents are on the national radar and the Malagasy water authorities are undertaking studies.

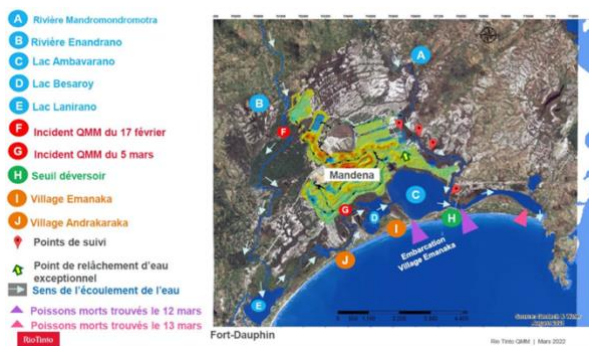
¹ In this instance the “artificial swamps” appear to refer to the QMM paddocks – a series of mine tailings settling ponds that are considered part of the “restoration” process and water management for the mine operation.

² PowerPoint presentation, Centre for Environmental Research (CNRE), principal results, slide 3

Meanwhile, QMM insist there is no environmental impact or risk, although investigations are still underway and no public conclusions of results are available or have yet been shared.

QMM are claiming that interim studies by their external provider, JBS&G, indicate there is no cause for concern. However, these interim reports are far from conclusive. JBS&G states it “accepts no liability for use or interpretation by any person or body other than the client” (e.g., QMM) and that the report “should not be relied upon by other parties, who should make their own enquires.” (JBS&G, 2021).

International radioactivity expert Dr Swanson has studied three JBS&G interim reports and made [recommendations](#), raising questions as to whether the JBS&G study can deliver what is needed. Swanson says “*It is unclear whether the current monitoring design will generate data that can confidently be used by QMM as well as by Malagasy regulatory authorities to meet (its) goals*”, one of which is to “*determine all incremental increases relative to background of radionuclides and other chemicals of concern (e.g., lead)*”.



Transparency International-Initiative Madagascar (TI-MG), and the Coalition of Publish what You Pay in Madagascar reported [the incidents](#) from the ground, and have called on the Malagasy state actors to ensure [transparency](#) over the testing that is currently underway on the ground.

See incident map left (Rio Tinto)

Delays leading to Emergencies

For over three years our civil society group has been advocating Rio Tinto address the: *management of QMM mine process wastewater; provision of safe drinking water for local affected communities; transparency around the water issues, and radioactivity*, especially following the [Swanson report](#) findings in 2019 of elevated uranium, to enable communities to understand risks and engage proactively in discussions and monitoring of QMM. The continued delay to respond to these needs and demands has meant that what were already urgent matters three years ago became emergencies in February 2022.

Ongoing Risks

Impacts of the QMM mine bring multiple risks to the surrounding communities including:

1. **Health impacts** from ingestion of [uranium and lead](#) in drinking water sources include: affected kidneys and bones; damage to the nervous system, learning disabilities, impaired hearing and formation and function of blood cells; increased blood pressure, decreased kidney function and reproductive problems.
2. **Food insecurity**: land loss, flooding, soil infertility, and depleted fish stocks due to the QMM weir and to water contamination are all impacting food production and nutrition.
3. **Increased conflict** due to [poor governance and lack of transparency](#) around QMM

Demands

We have demanded that Rio Tinto expedite a public **Roadmap**, to explain publicly how QMM will address water issues at Mandena, which should include: - water management system/s, dam safety, water quality, technical reporting, communications, and local engagement processes.

We also demand:

- Immediate access to safe drinking water for ALL affected communities
- Strengthening communities' access to information regarding QMM operations
- Independent monitoring of the mine to international standards
- Meaningful public consultation with all available risk assessments
- Transparent reporting
- Cessation of direct QMM funding to state regulatory bodies
- Full health testing in the affected communities
- Full compensation for loss of lands, livelihoods, and other impacts
- Resolution and remedy for outstanding complaints
- Transparent and independently facilitated Grievance Procedure
- Robust Whistleblower mechanism
- Plans for the management of mine water at future sites (Petriky and St Luce)

Contacts:

Andrew Lees Trust (ALT UK) is a British based charity working to serve the people of Madagascar since 1995. It has a long- standing relationship with communities in the south of the island where it delivered social and environmental education programmes for over ten years. In 2009 it realised its sustainability strategy with a full hand over to its Malagasy team. It has since provided technical advice and fundraising assistance to the Malagasy NGO in a commitment to local ownership of development, and supports local actors for change, civil society and communities, amplifying their voice and advocating for their rights. **Contact:** Yvonne Orengo, Director: yorengo@andrewleestrust.org Mob: + 44 (0) 7905 406 303 www.andrewleestrust.org

Publish What You Pay Madagascar (PWYP MG) is a coalition of civil society organizations in the extractive industry sector. This organisation works to ensure that natural resource extraction benefits to the Malagasy people and to drive development. It also works for more effective civil society engagement in the Extractives Industry Transparency Initiative (EITI) process in the country and an open and accountable extractive industry. It promotes community participation in decision-making and works to influence the Government on mining and petroleum laws. The PWYP MG Coalition is currently led by Transparency International Initiative Madagascar (TI-MG). **Contact:** Dr Ketakandriana Rafitoson, National Coordinator: krafitoson@transparency.mg see <https://pwyp.mg/>

Media Links

https://www.malina.mg/fr/qmm_fuiteseauxpolluees

https://www.malina.mg/fr/ambaravano_anosy/

<https://theecologist.org/2022/mar/25/dead-fish-found-mine-dumps-water>

<http://www.tailingsnews.com.au/>

<https://www.rfi.fr/fr/afrique/20220316-suspicion-de-pollution-%C3%A0-madagascar-les-autorit%C3%A9s-tentent-de-rassurer-l-opinion-publique>