UG MINING DIGEST

DECEMBER 2022

Unlocking Uganda's Mining Potential

Vol 4/ Issue 1

Government criminalises mercury use in mining

IN THIS ISSUE

ACEMP
Africa Centre For Energy And Mineral Policy

Produced with funding support from:
Solidaridad

Cover photo: A photo showing burning of mercury and gold ore amalgam.

This bulletin is produced with funding support from Solidaridad East and Central Africa.

EDITORIAL TEAM:

Editors: Chris Musiime and Isabella Acomai

Sub-editor: Robert Mwesigye

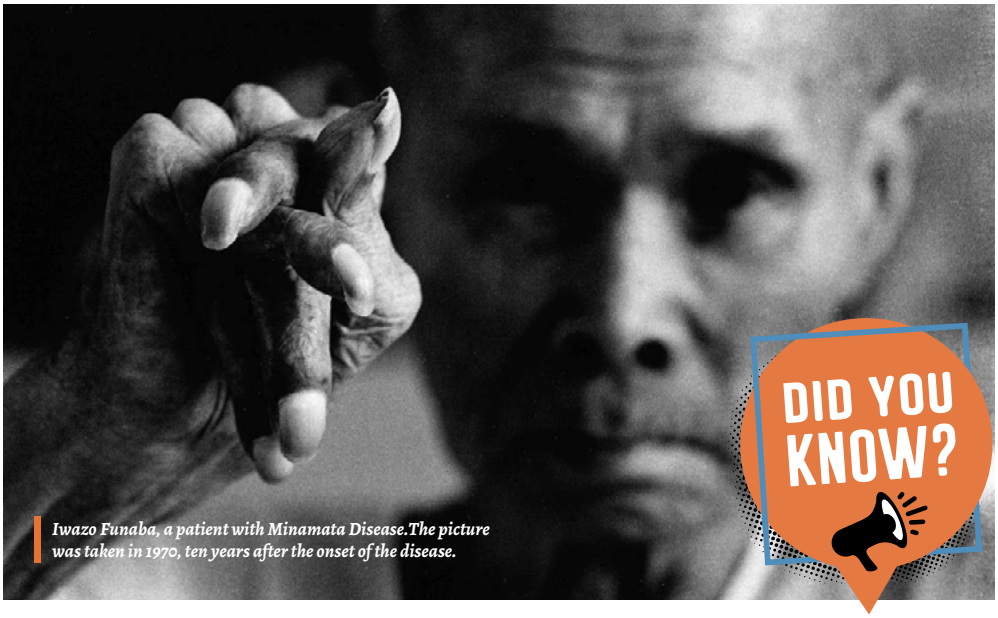
Contributors: Robert Mwesigye, Martha Achom and Bwesigye Don Binyina

Contact us: info@acemp.org

ACEMP
Africa Centre For Energy And Mineral Policy

www.acemp.org | www.plexii.org

Extracting Sustainability



Iwazo Funaba, a patient with Minamata Disease.The picture was taken in 1970, ten years after the onset of the disease.

1970 Photo/Shisei Kuwabara

CONTENTS

The birth of the Minamata Disease

The Minamata Convention was named after Minamata, the Japanese city that suffered severe mercury poisoning after a local chemical factory spent over 30 years dumping large quantities of industrial wastewater containing organic mercury into the waters of the local bay. The factory, which was owned by Chisso Corporation, released the industrial wastewater from 1932 to 1968.

The pollution caused widespread illness – referred to as Minamata disease, with half of those severely affected dying within three months. People ate the fish, were themselves contaminated, and became ill. Local bird life as well as domestic animals also perished. In all, 900 people died and 2,265 people were certified as having directly suffered from mercury poisoning or Minamata disease.

In March 2011, some 2,000 victims of the mercury poisoning were compensated with up to USD $28.5 million by the Chisso Corporation.

Minamata Bay has since been restored by removing more than 1.5 million cubic meters of contaminated sediment over a period of ten years at a cost of over USD 350 million. ■

Courtesy/PLEXII

A photo showing burning of mercury and gold ore amalgam.

Government criminalises mercury use in mining

Miners criticise the move, saying it was rushed yet they have no alternatives

BY ROBERT MWESIGYE

The new law, assented to by President Museveni in October 2022, sets a steep penalty for persons found using mercury in their mining operations. Subsection (1) of Clause 255, sets a hefty fine of five thousand currency points, equivalent to 100 million shillings, or imprisonment of three years, or even both. The law also directs that use of cyanide in mining operations must be authorised by the Government. Miners who use cyanide without that authorisation risk the same penalty.

Mercury is widely used during the processing of gold ore through whole ore or concentration amalgamation, accounting for the most mercury emissions worldwide, which studies put at 1,400 tonnes yearly.

Miners, however, are unhappy with the new law, arguing that not only are the penalties extremely harsh, but the law was rushed without wide stakeholder consultation. They also argue that the Government should have provided an alternative to mercury before outlawing it.

"The option of using cyanide is not viable because it is expensive," says Kabuye Ivan, a gold miner from Busia. "A tin costs in excess of one million shillings while a kilo of mercury costs seven hundred thousand shillings. If government somehow subsidises the price of cyanide, people will eventually abandon mercury." Gold miners also argue that setting up the necessary infrastructure for a cyanide plant can cost up to 250 million shillings, yet the cyanidation process takes two months to produce gold.

Courtesy/PLEXII

A Cyanide facility in Eastern Uganda. Miners argue that it is very expensive to set up.

Mercury

Civil society efforts to clean Uganda's gold

Uganda has just launched a 5-year planetGOLD Project aimed at reducing mercury use by artisanal and small-scale gold miners. The project is in partnership with the United Nations Environment Programme as the implementer; IMPACT as the executor with support from NEMA and the Directorate of Geological Survey and Mines. The project aims to reduce mercury use in the sector by 15 tonnes over its lifetime.

According to PlanetGOLD, the project "will introduce miners to solutions to environmental and social challenges in the sector, helping transition toward more responsible gold mining."

Lynn Gitu, the planetGOLD project manager, told this publication that interventions will include financial inclusion and responsible supply chains - supporting artisanal and small-scale miners to access credit from financial institutions as well as government and development partner-led financing initiatives.

Additionally, the project aims to bring ASM gold into the international supply chains as they learn to comply with international standards like the EU regulations, ICGLR RCM, planetGOLD criteria, among others.

The Africa Centre for Energy and Mineral Policy also recently launched a Self-Regulation Manual for artisanal and small-scale gold miners to guide them in managing waste and handling of mercury at their sites.

The simplified manual can guide miners to self-assess issues of health and safety at their mine sites including proper handling of mercury and management of vapour/ recycling, personal protection, wastewater disposal, management and treatment of tailings, mercury usage and personal protection.

Government should have encouraged that first before prohibiting chemicals like mercury which gives law enforcers chance to extort money from ASMs due to the new punitive measures

Emmanuel Kibirige, the general secretary of the Uganda Association of Artisanal and Small-scale Miners, said of the manual: "It is a good self-assessment tool. Government should have encouraged that first before prohibiting chemicals like mercury which gives law enforcers chance to extort money from ASMs due to the new punitive measures." ■

Miners Speak Out on Mercury Use and the New Law

Charles Dhizaala: "The new law was passed in haste and without consultation of miners but there is need to first find a workable alternative other than rushing to penalize miners for use of mercury. There is also need to look at the mercury supply chains and establish how it gets into the country before criminalizing its use by we miners."

Kwemboi George: *"The alternative of using borax to process gold only cleans the ore whereas mercury amalgamates it. It appears some people are more interested in promoting borax for selfish reasons because for the miners, it is not a working option."*

Odima Hassan: "From the age of 15 when I started mining and using mercury, I have grown up hearing how poisonous it is. I am making 45 and have nearly 30 children but I do not see anything wrong with me. I hear the new law has heavy penalties for miners found using mercury. It is assumed miners make a lot of money but you do not know how much we invest over a long time and actually reap nothing"

Moses Kaweesa: "I am a mining engineer who also works with ASMs. Since I left school to work in the field, I can testify that it is much easier to get gold using mercury unlike cyanide which is very expensive. We are now looking for 250 million to set up a cyanide plant. The cynadisation process also takes you up to two months to extract gold. During that period how would we be surviving?"

Joweria Nanfuka: *"Mercury affects we women more than anyone else. We should all be on the lookout for people burning gold amalgam near our homes, children should be taken far away from burning points to prevent inhalation of mercury vapour. "*

Aguttu Josephine: "The new law has come, there are repercussions for mercury use. There's nothing we can do about it; we are now gearing efforts towards protecting ASMs & gradually reducing mercury use. Let's protect ourselves, wear masks while burning amalgam."

Dr. Benjamin Wabwire: Renal failure is one of the most expensive treatments. The effects of mercury inhalation may not be seen immediately but occur over time with the greatest effect being on the unborn children.

Mercury is a heavy metal that settles at the bottom of water sources where miners carry out their processes and is ingested through food like fish." ■

Courtesy/PLEXII

PlanetGOLD project will reduce mercury use in gold mining

On 23rd November 2022, the planetGOLD Uganda project was launched. The project's main objective is to reduce the use of mercury in the country's ASGM sector through a holistic, multisectoral integrated formalization approach and to increase access to finance, leading to adoption of sustainable mercury-free technologies and access to traceable gold supply chains. The project, funded by the Global Environment Facility, will be implemented by the UN Environment Programme and executed by IMPACT, in partnership with the National Environment Management Authority and the Directorate of Geological Survey and Mines. In this interview, Project Manager planetGOLD, ***Lynn Gitu****, shares some insights with PLEXII's* ***Robert Mwesigye****.*

Q ***Mercury is obviously a major environmental concern among ASMs as its footprint goes beyond the immediate community through water contamination and effects manifest overtime. What are some of the interventions under the planetGOLD project?***

The interventions under the project are under four components:

First is Formalisation optimization by supporting artisanal and small-scale miners to organize themselves into legal entities that can access new licenses under the new Mining and Minerals Act, 2022.

Second is financial inclusion and responsible supply chains by supporting artisanal and small-scale miners to access credit from financial institutions as well as government and development partner-led financing initiatives. It also involves bringing ASM gold into the international supply chains as they learn to comply with international standards like the EU regulations, ICGLR RCM, planetGOLD criteria, etc.

Third is enhancing uptake of mercury-free technologies by working with ASM groups to adopt mercury technology methods after consistent interventions of awareness raising about the dangers of mercury to health and environment.

Fourth is knowledge sharing and management so that information and knowledge shared through the course of the project leads to improvement in the management of the ASGM sector of the country. That is, that the ASGM sector is not only a producer of 'horror' stories but that there is commitment to growth and compliance to international standards of doing business.

Q ***Is there ongoing research that might result into a more effective gold extraction method seeing that miners argue that the available options to mercury do not work?***

The planetGOLD Uganda project hopes to partner with different individuals and academic institutions like Busitema University to support research and development on this issue to make sure that the mercury-free technologies that eventually are taken up by miners are mostly home grown. Additionally, there have been some technologies piloted in countries like Colombia, Guyana and Peru that have yielded good results so far. The project in Uganda has the opportunity to start with those methods/ technologies and not from scratch.

Q ***The planetGOLD project targets 4,500 miners; in Uganda DGSM estimates at least 31,000 gold miners. Is this not a less than representative target population?***

Development interventions are not intended to be a waterfall but more like a measured tap. The philosophy is: target a small number and do your work with them so well that they affect double their number and also, allow other development actors to reach another small number and on and on. This project is certainly not the only development intervention that will be running between now and 2027. Additionally, a multi-stakeholder approach of the project's interventions will enable the project to reach more miners than these as it is envisioned that the project will partner will national NGOs and CBOs to reach their immediate beneficiaries, but good planning demands that target beneficiary numbers are not over ambitious.

Q ***According to the Minamata Convention we have a 2030 target to eliminate use of mercury. Is this achievable given that it remains a gradual process for miners to fully abandon mercury?***

This is a question, again, of prudent planning. The target of 2030 allows all stakeholders relevant to its achievement to be put on notice to put their best foot forward as they make plans and develop interventions. The ambition is good for stakeholders to get to work as soon as possible aiming to meet that deadline as opposed to procrastinating or shelving the issue. As the saying goes, aim for the stars and you will likely hit the clouds.

Q ***Mercury is widely used because the volumes processed by miners are usually small which explains why it's easily accessible and cheap. What do you think will motivate miners to abandon mercury all together?***

I think an understanding of the harmful effects of the anthropogenic emissions of this chemical on not just the miners themselves but their children, their communities, the country and even the rest of the world will enable a mindset change. This is the foundational hope of this project's interventions. Additionally, helping the miners to be integrated into the available legal financial systems and changing the negative attitude of financiers toward ASMs will help miners not depend on manipulative gold traders who provide capital but also mercury.

Q ***What is your view on the criminalization of mercury use by government as miners struggle to find alternative means that are not even affordable to most of them?***

An effort was made by civil society stakeholders to petition Parliament to modify this provision in the Mining and Minerals Act, 2022 but the push back was that because the Minamata Convention, which was ratified by Uganda, speaks to elimination, our mining law cannot have 'progressive' language. Criminalization certainly makes miners' operations tenuous; the hard work is to partner with government/ the DGSM to adopt a supportive attitude to miners rather than a punitive one.

Q ***ASM dynamics indicate women are more exposed to the mercury because of their role in the value chain of gold extraction. Does the planetGOLD project have any specific gender interventions to address this?***

Absolutely. Actions to promote gender equality and women's empowerment are front and center in the interventions of this project. A gender action plan was developed as part of the project's proposal preparation and one of the key cornerstones of the plan is gender impact analysis of every project intervention as well as any laws or regulations that will be developed with the support of the project.

Q ***Do the project interventions include sensitizing communities too, beyond just miners as mercury tends to contaminate the ecosystems they interact with?***

Yes, of course. A sensitization strategy is in place and there is opportunity for it to be continually reviewed and adapted to realities of the context as the project progresses. ■

EITI will improve resource governance in Uganda

This year, Uganda released its inaugural Extractives Industries Transparency Initiative (EITI) report, 18 months since joining the global transparency standard. This effectively means the country has embarked on a journey to manage its nascent oil, gas and mineral sectors in an open manner, accounting to the people who they are doing business with and where the revenues are going. PLEXII's ***Robert Mwesigye*** *spoke to* ***Gloria Mugambe****, the EITI Head in Uganda, about EITI and what all this means for Uganda's extractives sector.*

Courtesy/CSCO

Q ***Congratulations on the inaugural EITI report under your stewardship as head of the UG EITI Secretariat. What stood out for you or rather what were those defining moments given that extractives is new territory for you?***

The mining sector – every day I learn something new. Just getting my head around the different types of licenses, appreciating that we are trying to regularize an industry that has existed for hundreds of years, appreciating the mineral wealth that we have in Uganda; recognizing the efforts of the different stakeholders who have worked tirelessly in this area for many years, and just trying to tap into their experience and knowledge; it continues to be an amazing journey. And that's even before we start discussing petroleum.

Q ***What was the experience coordinating all these different government agencies and companies during collection of data on extractives? What were the challenges especially?***

There were positives as well as areas for further development. The atmosphere was cordial; everyone was excited to be part of EITI implementation, so the goodwill and willingness to work together was present.

Challenges presented when it came to turn-around time on requests. There was some bureaucracy within company structures; that is why for example we were not able to secure independent audits to assess the quality of data submitted by companies. We had to accept the templates as they were, signed by relevant authorities within the companies. This, however, fell short of the EITI requirement which stipulates independent quality assurance. The EITI dialogue is also a journey, things cannot be changed overnight, the process requires continuous education and awareness raising of stakeholders, so that appreciation of EITI implementation, requirements and criteria grows and evolves.

Q ***Where do you see this process going in terms of resource governance in Uganda? What are the learning points and how can the process be improved?***

I see the EITI process contributing greatly to improved resource governance in Uganda, because it is premised on the two key principles of transparency and accountability. Transparency means disclosing information on extractives – production, contracts, revenues and expenditures to mention a few. Accountability means being able to demonstrate efficient use of extractive resources. So with these two principles, Ugandans will be able to know, appreciate and understand how they are benefitting from their extractive resources, which ultimately belong to them.

Learning points – there are still some issues around confidentiality and disclosure; and participating institutions' ability to systematically disclose information. For example, URA to publish directly on its website revenue information related to the extractive sector. However, as I said earlier, EITI dialogue is a journey, and the process requires continuous education and awareness raising of all stakeholders to generate improved appreciation of the extractive chain, criteria and requirements.

Government officials, Civil Society leaders and Extractive Sector/Industry experts pose for a photo at the launch of the EITI Report

Q *You benchmarked some countries while developing this report. What would you say were interesting learning points about transparency in extractives management for us as a country?*

Countries are at different stages in their extractive journeys. Tanzania and Zambia joined EITI in 2009, while Ghana has been a member for 19 years. Each of these countries has managed to do some things well, and others not so well. For example, Ghana has fully disclosed contracts, which is not the case for the other two. The different stages of implementation demonstrate the importance of country context – no two countries are the same, that is why the point of departure for any in-country EITI process is defining the country-specific challenges, and then going on to formulate objectives that will respond to those challenges and form the foundation of the national EITI work plan.

Q *What, in your view, would be a strategy to ensure the EITI achieves its objectives as far as transparent management of extractives in Uganda is concerned?*

All the relevant stakeholders need to come together to makes sure that the national EITI objectives are met. No one constituency can achieve this on their own. It needs the combined efforts of government, extractive companies and civil society to ensure that the governance and management of the sector is improved. Companies must disclose information on their operations, government must confirm revenues received and production undertaken. Together, the two constituencies must look out for the social, economic and environmental effects of extractive activities on the communities. Throughout this process, civil society should monitor disclosures and ensure that duty bearers are accountable to the population, and that Ugandans receive benefits from their natural resource.

Q ***From the report, disclosure of beneficial ownership and contracts appears to be a thorny issue. What is your take on this? And how do we get there given the obscure nature of how most mining companies do business?***

These concepts are new to stakeholders. Dialogue is ongoing and institutions are open. Beneficial ownership is not unique to EITI, it is required across government by other agencies like URSB and FIA. So, there is a collective effort across government agencies to ensure that beneficial ownership transparency is achieved.

EITI is helping us to gradually open up the mining sector and understand which companies are operating, and how. We are continually educating and sensitizing them on the need to comply with EITI requirements now that we are a member, and that includes beneficial ownership disclosure.

We need to unpack the numbers in order to understand the dynamics of the sector, and tell a credible story based on facts. So, it all begins and ends with data collection, data disclosure and data reconciliation. It is also about understanding the effects of extractives on livelihoods and communities, and ensuring that the negative effects, if any, are mitigated.

Q ***Could you share on any feedback you might have gotten from the International Secretariat?***

The International Secretariat has just been here on a mission to support us in ensuring that we meet all the criteria nitty gritty, including preparation of the Annual Performance Report, and development of the new work plan. They are greatly encouraged by our progress and level of engagement. Their main emphasis is on making sure that we widely consult, and that we document all the activities that we undertake so that we have a robust evidence base come validation at the beginning of April next year.

Q ***Winding up, what are those key achievements you aspire to in terms of EITI achieving its goal of open, accountable and inclusive management of extractives?***

Full transparency in the form of contract disclosure, beneficial ownership disclosure and systematic disclosure of data by the relevant institutions.

Widespread national recognition of EITI, what it means for Uganda, and its role in enhancing extractive management, down to the grassroots, the communities where extractive activities are taking place. ■

Uganda's Rare Earths project on course

Uganda joins an elite club of rare earths minerals producers worldwide following the launch of the Makuutu Rare Earths Project in Eastern Uganda.

BY ROBERT MWESIGYE

Tim Harrison, managing director of Ionic Rare Earths, the parent company of Rwenzori Rare Metals (RRM) that is developing the Makuutu Project, says that it is one of the world's largest, rare earth ionic clay deposits, according to a statement he made upon announcing the Mining License Application (MLA) for the project in October.

The MLA followed the Environmental and Social Impact Assessment (ESIA) report public hearings in the districts of Mayuge and Bugweri in August, marking the first of their kind for a mining project in Uganda, after those of the Albertine oil development project.

RRM Chief Executive Officer, Warren Tregurtha, speaking to this publication, said: "This is not the best project or the biggest, but it is a good project. There's lots of other rare earth projects out there. Ours is to

Project site visit with Trevor Benson, Board Chairperson Ionic Rare Earth; Allan Mulligan, General Manager; Makuutu Rare Earth Project Country Manager, Patience Singo and his team

Courtesy photo/RRM

Courtesy photo/NEMA

NEMA officials and the RRM team display the ESIA Certificate

demonstrate to the world that even countries like Uganda can benefit from their resources."

He noted that it is a good project that seeks to develop an economically viable, environmentally friendly and sustainable rare earth pool and also for the country's national development plans and the host community as well.

Patience Singo, the RRM Country Director, said the world has always looked to China that dominates the Rare Earth Elements (REE) production, but this project would now position Uganda as a global mining investment destination.

On October 26, the National Environmental Management Authority boosted the Makuutu project with an ESIA Certificate, further testament that the multi-billion project is on course.

Speaking at the ceremony, RRM Chairman Hon/Sir Richard Henry Kaijuka noted that the Makuutu Project is unique because after mining; soil productivity will be restored which will in turn boost agriculture within the region. He further commended NEMA for demonstrating competence in assessing such a complex project and approving the conditions for its development; and added that the Busoga sub-region; the country and the world would benefit from the project.

The Makuutu Project... is projected to generate up to $7.6 billion in revenues over its 27-year lifetime and generate an estimated 1,200 jobs.

The Makuutu Project, comprising 5 licenses that cover 243 square kilometers, and straddle the districts of Bugweri, Mayuge and Bugiri, is projected to generate up to $7.6 billion in revenues over its 27-year lifetime and generate an estimated 1,200 jobs.

Currently, there is a global rush for critical minerals in the face of smart technology of electric vehicle production, battery making, renewable energy systems and technology manufacturing, and green energy. By their nature, the minerals are geographically concentrated, with Africa being a key target for the developed economies.

Global statistics showed in 2021, China accounted for 70% of rare earths production followed by the US in a distant second place, Myanmar and Australia. ■

Beware of the hidden environmental costs of Uganda's Rare Earths project

The recent progress of the Makuutu-based Rwenzori Rare Earth metals REE project in Eastern Uganda has been met with excitement and hope, but there needs to be careful planning to mitigate the potential environmental impact of the project.

BY BWESIGYE DON BINYINA

Rare Earth Elements are a group of 17 chemically similar mineral elements that are sometimes found in minerals containing Uranium. Fifteen (15) of these elements are number 57-71 on the periodic table of elements, Scandium and Yttrium are the other two elements.

Alongside other listed critical minerals such as Copper/Cobalt, Nickel, Zinc, Manganese, Iron, Tantalum, Tin and Tungsten, these minerals are at the centre of a global energy transition from fossil fuels to renewable energy.

Since the Paris Agreement of 2015 on net-zero emissions by 2050, a panic button has been pushed in the global North in search of cleaner energy technologies and the critical minerals to drive this new energy world order.

Accordingly, demand for Rare Earth Elements, especially Neodymium (a super magnet) and Dysprosium and all these other critical minerals is estimated to quadruple current supply in the next three decades because of their forecasted derived demand.

Critical Rare Earth minerals have in the past two decades been the magic behind the communication and high-tech revolution, manifested in products such as smartphones, smart TVs, 3D systems, high end military precision hardware and equipment such as missiles systems and the famous Turkish-made Bayraktar TB2 drones wreaking havoc on the Russian-Ukrainian war front.

In Uganda, the project to mine Rare Earth Elements is touted as a regional game changer with the developers promising regional development and colourful rugs-to-riches stories. The project promises to contribute over US$ 7 billion in state revenues and create over 1,200 jobs for the country.

However, the potential environmental risk of this project has been smartly and expertly hidden away in the close to 1000-page Environmental and Social Impact Assessment (ESIA) report.

A critical review of the ESIA report for the Makuutu Rare Earths Project covering the three districts of Bugiri, Mayuge and Bugweri within the Busoga Kingdom for which an ESIA certificate of approval was issued by the National Environmental Management Authority (NEMA) in October 2022, leaves one dissatisfied at the limited disclosure of important information to the stakeholders that attended the public hearings and the environmental ombudsman, NEMA.

The ESIA report glosses over the human and environmental cost of the mineral extraction, processing, and refining as required by the new Mining and Minerals Act, 2022. It underplays the amount of radioactive content and materials that will be generated by the project through its mine life, ignoring the heavy nature of these Rare Earth Elements and their associated human and environmental footprint in form of significant amounts of radioactive waste that will be generated through the life of the mine.

In the United States and China, Rare Earth industries have struggled to contain the same since the 1960s. More worrying is the proximity of the project to Lake Victoria, Lake Kyoga and Lake Nakuwa water basin systems that rely on the river tributaries of Naigombwa, and Lumbuye that originate in the project acreage covering an estimated 40 Sq. Km.

The risk of the thorium sludge seeping through the open-cast mines into the interlinked water systems of this highly sensitive eco-system and rich biodiversity environment as well as the potential failure of the tailing dams, are all potential risks that have not been adequately disclosed and addressed in the ESIA.

Yet, available data reveals that Rare Earth mineral rich, mining, processing and refining regions of China have been overflowing with poisoned water and soils that have caused a spike in abnormal and unprecedented disease outbreaks in what is today known as the 'cancer villages'. Communal local food chain systems and livestock have been decimated, while impoverished local communities have been left helpless.

The Chinese City of Baotou in inner Mongolia, is home to 2 million people living next to the largest Rare Earth Elements mine in the world. Beside the mine is a pond to contain the waste that is around 70,000 metric tonnes of radioactive thorium. The thorium sludge reportedly continues to leak into the groundwater systems, moving towards the yellow river where millions access contaminated water. It should be noted that thorium has been found to cause bone, pancreatic and lung cancer, the silent killer to a significant majority of artisanal miners of Rare Earth Elements in this Chinese City.

Government and NEMA, therefore, must be more critical of the Makuutu Rare Earth Project to ensure that all these risks have been carefully considered and their mitigation comprehensively planned for. ■

Mr. Binyina is the Executive Director at ACEMP.
Email: donbb@acemp.org

Artisanal miners working loose soils at a gold mine site in Busia.

Mine accidents continue to claim lives of ASMs

Although the process to formalise ASMs has eased and many are getting licensed, illegal mining continues to dog the sector as fatal accidents pile up.

BY ROBERT MWESIGYE

The latest incident was registered on December 9 in the gold mines of Bihanga Sub County, Buhweju District, claiming four artisanal miners.

According to quoted security officials in Buhweju District, the miners were operating 'illegally' in the late hours after five o'clock in the evening. The region is currently experiencing torrential rains that pose a safety risky in the alluvial gold mines.

The Buhweju District United Miners Cooperative Society Limited Chairperson, Deus Beinomugisha, also an executive under the national ASM umbrella organization, UGAASM, however noted that the miners were not known to them, adding that despite their efforts to sensitize their people, many have failed to heed their guidance.

Doreen Birungi, the Buhweju District Natural Resources Officer, told this publication that whereas there are licensed ASMs operating,

not every miner operates under legal entities like associations, and that could explain what the security officials call illegal mining.

"There are people who are operating outside the association. But even for the associations, the license must have an area where it covers. It does not mean that if it's an association and has a license, it covers the whole of Buhweju. It has a specific area where the license covers. Anyone doing it outside the licensed area, whether an individual or association, that is illegal mining".

"Another challenge we have is that those holding licenses are doing activities beyond the limit of their license. You find someone has an exploration license but what is happening on ground is beyond exploration," Ms. Birungi explained.

Another challenge we have is that those holding licenses are doing activities beyond the limit of their license. You find someone has an exploration license but what is happening on ground is beyond exploration

With torrential rains pounding many parts of the country in what has largely been irregular weather patterns this year, miners have been caught off guard and some have lost lives in several reported fatal cases.

Earlier in April, a miner was found dead in a gold mine in Budde village, Bugiri District after residents were alerted by a stench. Swaibu Wafula had been missing for two days and his body was found under rubble.

Later in June, a teacher, Bernard Barasa, died in Butebei Village after soils collapsed and buried him at a gold mine they were excavating. Two others survived with injuries.

More recently on September 3, five miners perished in a quarry in Nganjo Village, Kajjansi Town Council after soils caved in.

Another two people died on November 30 in Kitholu Sub County, Kasese District, when a stone quarry caved in, killing them instantly. The local authorities reported that the quarry was operating illegally.

The unpredictable torrential rains have rendered most mines, both underground and open cast, unsafe. However, out of sheer need for survival, miners are ready to risk it all.

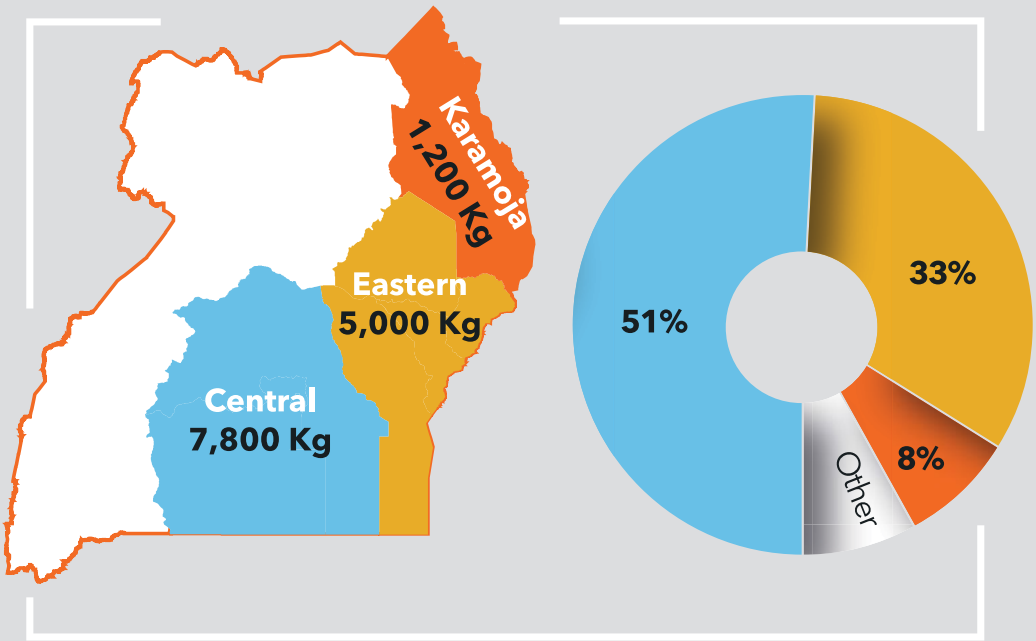
Meanwhile, whereas government is on track to formalize and regulate activities of base minerals ASMs, the extraction of building substances in quarries is yet to be regulated.

During the review of the Mining and Minerals Bill 2022, legislators deferred a proposed clause regulating building substances, instead proposing a separate Bill to that effect.

In many cases, the Police Minerals Protection Unit is stretched and cannot police everywhere as mine sites are numerous and remote, posing logistical challenges. ■

Mercury Poisoning: Gold Miners at Risk

A 2019 study by NEMA established that in Uganda, over 15,000 Kg of mercury are used by 73% of artisanal and small-scale miners in their gold operations every year. Central Region uses the highest amount of mercury, over 7,800 Kg per year (51%); followed by the Eastern Region with over 5,000 Kg (33%) and the Karamoja Region with over 1,200 Kg (8%).

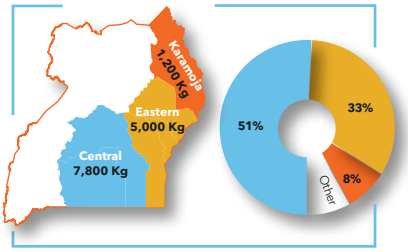


The rampant use of mercury in gold mining operations exposes the workforce to serious risk of mercury poisoning which can have devastating health impacts on human eyes, skin, liver, lung, kidneys, heart, brain and central nervous system. Infants and young children are more vulnerable to mercury poisoning than adults.

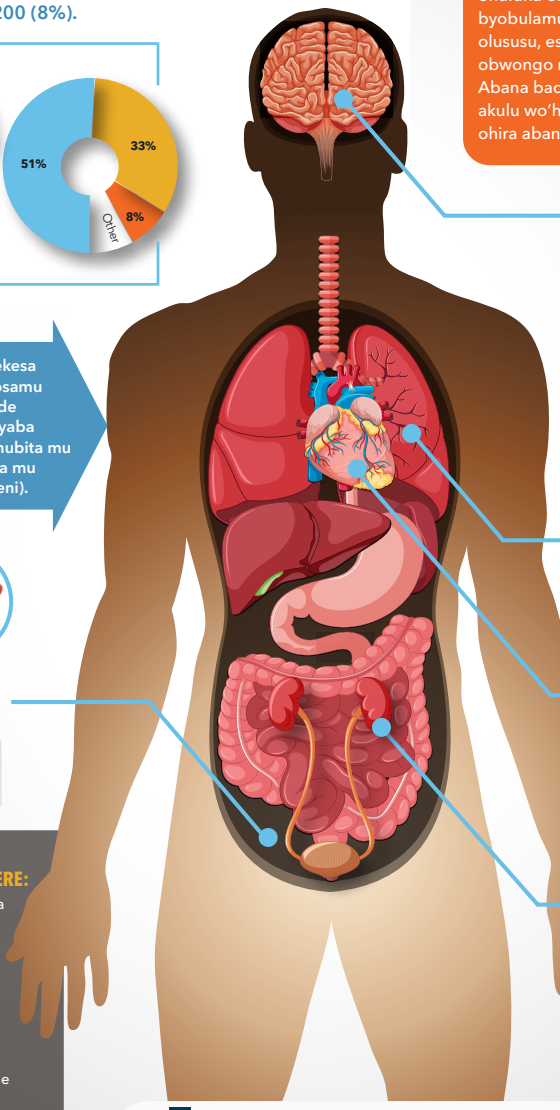
The following illustrations explain, in different languages, how mercury poisoning can affect the health of miners and people near mining areas who may inhale mercury (through gold processing activities) or ingest it (by eating fish).

OBULABE OBURI MU HUYABA **MAKYURE**

Mu Uganda, akulu we **kilo 15,000** ekya makyure kyihosesebwa abandu 73% abahosesa amahono nende eholahare mu mirimo kyohuyaba zaabu buri mwaka (NBO, 2019). Rijoni eya'kati niyo eyihira ohuhosesa makyure, akula we **kilo 7,800** buri mwaka (51%); elodebwaho Rijoni eya Ebuvajuba akulu we **kilo 5,000** (33%) nende Rijoni eya karamoja nende akulu we kilo 1,200 (8%).

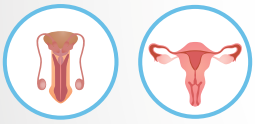


Ohuhosesa hwa makyure muno mu mirimo kyohuyaba zaabu siretera abahosi ohufuna obukosefu obwamani hu byobulamu obwanani hu moni kyabandu, olususu, esini, esyenda, omwoyo, obwongo nende ekumba elyohumukongo. Abana badoto nende abana bayere abari akulu wo'hufuna obulabe bwa makyure ohira abandu bahulundu.



OBWONGO Obwongo ohutabuhira lala, obudinyu mu ohukenda nende ohudisanya. Obukosefu mu huhola hwo bwongo hunyala ohutulamu ohuwulira bubi nga awuma syodaha nga buri sindu sihunyoresa, ohuwulira esoni nga wetya, ohutegereha ejuha mu hubona, ohwibirira, ohukunuha buri siiha, ohuwulira obujongu, ohufuha muzibe nga sobona, obutawulira, ohwelarihirira buri siiha, omutwe ohukyuna muno.

ESYOHUBONERAHO siino syekesa egeri makyure yiyinyala ohukosamu ebyobulamu bwa bayaba nende abandu ababa abi nende yibayaba abanyala ohuyera makyure (ohubita mu huhola hu zaabu) oba ohwigisa mu mubiri (ohubita mu hulya engeni).



AMALA Amala ohufuna obukosefu, efekisyoni, esihololo, asiima, obudinyu mu huyera nende obukyuni mu sirifu.

EBITUNDU EBYO'HWIBULA:
Ohuhedesa obusobosi bwo hwibula mu basakya nende abahasi, ohwibula abana bariho obukosefu.

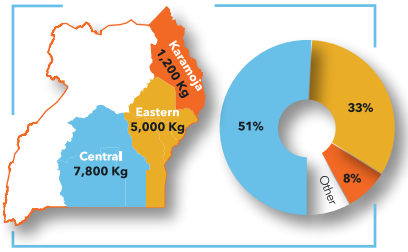
OMWOYO Puresya, obulwaye bwo mwoyo obutafukirira amabanga ohukenda ohukya mu bitundu byomubiri ebyejawulo nende ebindu bindi ebitulaho omwoyo ohurehera awo ohuhuba.

ABANA BATEBULWA, ABANA BADOTO NENDE ABANA BAYERE:
Makyure ari mu mubiri kwa mama abitawo yakya mu nabana handi anyala ohubitawo yakya mu mwana asiri humabere ohubita mu mabere ko'hununya. Sinyala ohureta obukosefu hu bwongo, obwongo ohufunya enyuma nga sibutegera, obutadisa bulayi, ohufuha muzibe, obwongo ohukyakalana, obutanyala hulomaloma oba ohukenda nende obukosefu bundi mu bana abatebulwa nende abana badoto.

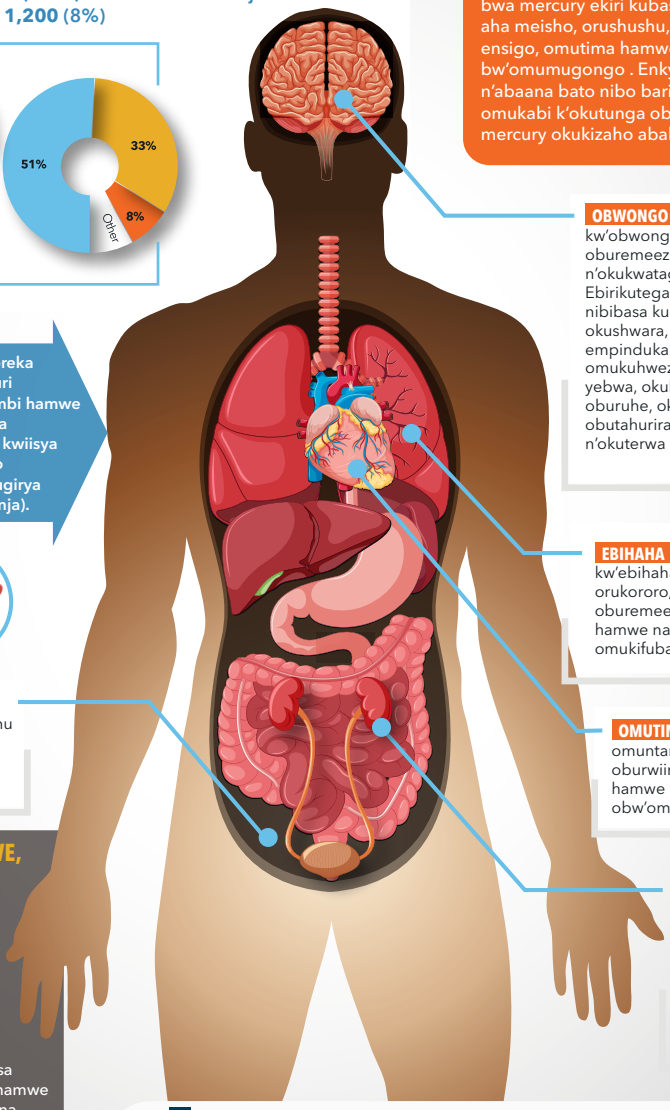
EFUUKO Obukosefu hu fuuko nende obutahola bulayi esitulamu efuuko obutahola omurimo kwayo.

AKABI AKA **MERCURY** OMUKUTIMBA EBY'OBUGEIGA OBW'OMW'ITAKA

Omu Uganda, Mercury y'oburemeezi oburikurenga **kiro 15,000** nekozesibwa n'obucweka 73 ahari 100 n'abatimbi abarikukozesa emikono hamwe n'abatimbi abakye bakye omukutimba efeeza buri mwaka (NBO,2019). Ekyanga kyarwagati nikyo kiri kukizayo kukozesa mercury, oburemeezi bwa **kiro 7,800** buri mwaka (51%); kiri kukuratirwa na buretwa izooba n'oburemeezi oburi kurenga **kiro 5,000** (33 %) hamwe na Karamoja n'oburemeezi **bwa kiro 1,200** (8%)



Okukozesibwa kwa mercury omumirimo y'omukutimba efeeza nikiteeka abakozi omukabi k'obutwa bwa mercury ekiri kubasa kuba eky'akabi aha meisho, orushushu, obune, ebihaha, ensigo, omutima hamwe n'obusimu bw'omumugongo . Enkyukye hamwe n'abaana bato nibo barikukyizayo kuba omukabi k'okutunga obutwa bwa mercury okukizaho abakuru.



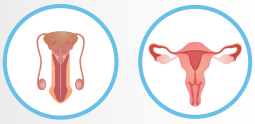
OBWONGO Okushishikara kw'obwongo okw'oruberera, oburemeezi omukutambura n'okukwatagana. Ebirikuteganisa obwongo nibibasa kurugamu ekiniga, okushwara, okutetema, empindukahinduka omukuhweza, okwebwa yebwa, okuhungira buri shaha, oburuhe, okufa ameisho, obutahurira, okweyanga n'okuterwa omutwe.

EBIHAHA Okushishikara kw'ebihaha, endwara, orukororo, orusenyiga, oburemeezi omukwisya hamwe na okugumirirwa omukifuba

OMUTIMA Oburemeezi omuntambura y'eshagama, oburwiire bw'omutima hamwe noburemeezi obw'omutima obundi

ENSIGO Oburemeezi bw'ensigo hamwe n'obutakora kurungi ekirikurugirira mu ensigo okuremererwa.

EKY'OKUREBERAHO eki nikyoreka nkoku obutwa bwa mercury buri obwakabi aha magara g'abatimbi hamwe n'abantu abari heihi n'ebicweka ebirikutimbwamu abarikubasa kwiisya mercury (okurabira omumirimo y'okutereeza efeeza) ninga okugirya (okurabira omukurya eby'enyanja).

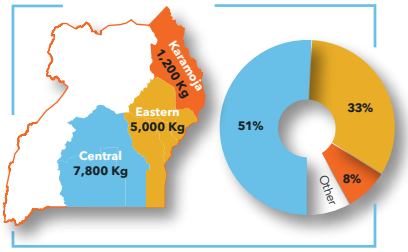


ENKORA Y'OKUZAARA
Okukyendeera kw'okuzaara omu basheija hamwe n'abakazi, okuzaara abaana abeine ebishobire aha mibiri yabo.

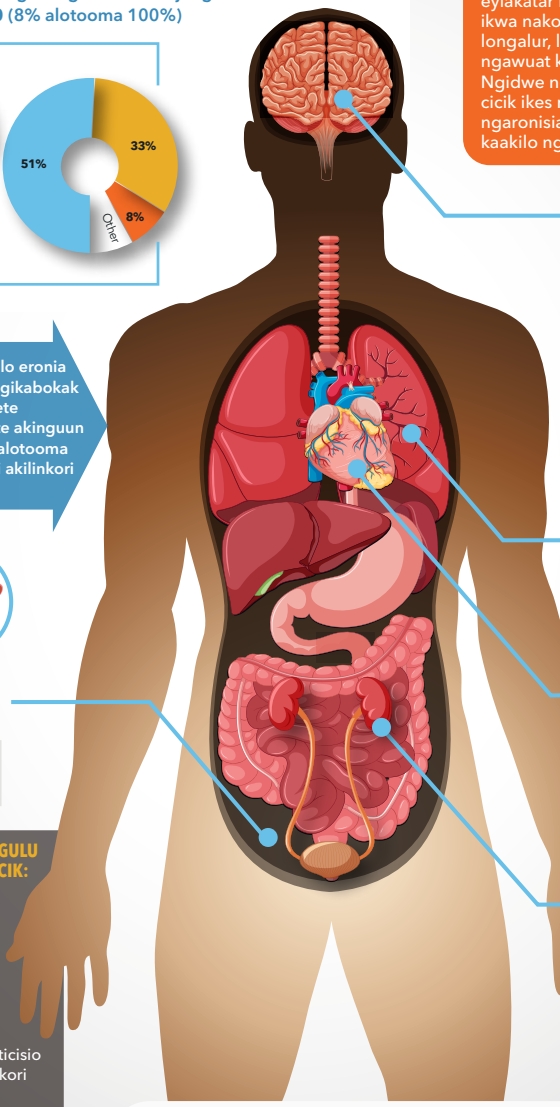
ABAANA ABATAKAZEIRWE, ENKYUKYE HAMWE N'ABAANA BATO:
Mercury eri omumubiri gwamaama neraba omu mwana ori omunda kandi nabasa kuraba omumashereka orikwonsya. Nikibasa kuretera obwongo bwashishikara, okuremererwa kw'obwongo, obutakwatagana gye, obutabasa okugamba ninga okutambura hamwe n'oburemeezi obundi omu baana abatakazeirwe hamwe n'enkyukye.

NGARONISIA KE **EMAKURI** ALOTOOMA AKILEM NGIBOKEN

Alo Uganda, **ngakiloi 15,000** ke emakuri ikes isitiyaete ekimar ngikabokak egolit ngulu cick alotooma neni eboketa ikes ngolo edoli 73% alotooma 100% angolo karu (NBO, 2019). Erigion ngolo alokiding ebuku (central) inges isitiyae etiae ke emakuri ngolo alalan nooi, ngakiloi nguna edeparito 7,800 angolo karu (51%); kiwuapak erigion ngolo alokide (Eastern) isitiyae **ngakiloi 5,000** nguna edolit ekamar 33% alotooma 100% ka erigion ngolo akarimojong edeparito **ngakiloi 1,200** (8% alotooma 100%)

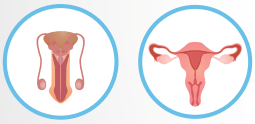


Akisitiya ke emakuri ngina apetun alotooma nenei ebokere egolit inges etapatanu ngaronisia nguna aarak nguna eyiakatar ngaronisia nangaleu angitunga ikwa nakonyen, ejiamu ka'akuwan, longalur, loukoi, lolinga, lotau, nadam ka ngawuat kaakuwuan nguna alotooma. Ngidwe ngulu aroko idounio ka ngulu cicik ikes nooi epatana ariamun ngaronisia nguna ka akisitiya emakuri kaakilo ngitunga ngulu apolok.



NGADAM Amunaar ngadam, elose ka ngatiokisio nguna itiyaa akuwan kojokon. Ngaronisia anadam ikes epedorete itungana alungaanut, akurianu, amaran, amuriaanut, akilura, akilocokin ke ekitee angakonyen, eupanu, amuduko, akingimanut, alalaku angatameta ka akiger akou.

Itoodiunit etorube lo epite ngolo eronia akisitiya emakuri anangaleu angikabokak egolit ka lotunga ngulu ibooyiete alodiyiete neni ngulu epedorete akinguun ka toloma emakuri toomakec (alotooma apak ngina eliiyiere egolit) kori akilinkori inges (ka'akinyam ngikolia).



NGIUKOI Amunaar angiukoi, ariamun edeke, awuala, akipiyior akiyianga ka ikiimakina ke ekore.

EKISITIYAE KA AURIYIET
Akinyupun ka awurere alotoma ngikiliok ka ngaberu, akidoun angidwe angulu ibangibangit.

ETAU Edeke ngolo epororeta ngaakot anakuwan, edeke ngolo angakepua ke etau ka nguluce dekesio ke etau daadang.

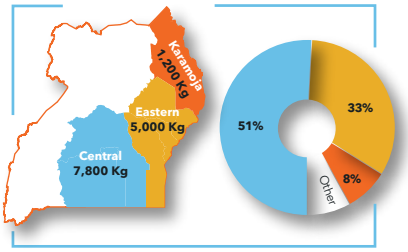
NGIDWE NGULU NGIDOUNO, NGULU AROKO IDOUNIO KA NGULU CICIK:
Emakuri ngolo eyiei tooma nakwan atoto (aberu ngina epoti) itori nikoku ngini anakooki kai tori dang neni aikoku angicicic alotooma akinak. Epedori tar amunaun ngadam, ikinyipun etame, akitiyia kaakuwan ejok, amudukanut, etiatatiakae angiticisio ka akuwan, akipiyiori akiruoro kori elose ka ngaronisia ngunace daadang nguna alotooma ngidwe ngulu ngidouno ka ngulu cicik.

NGINGALUR
Ngidekesio ngulu angingalur ka ajongore ke etic kec ka togol neni angakul.

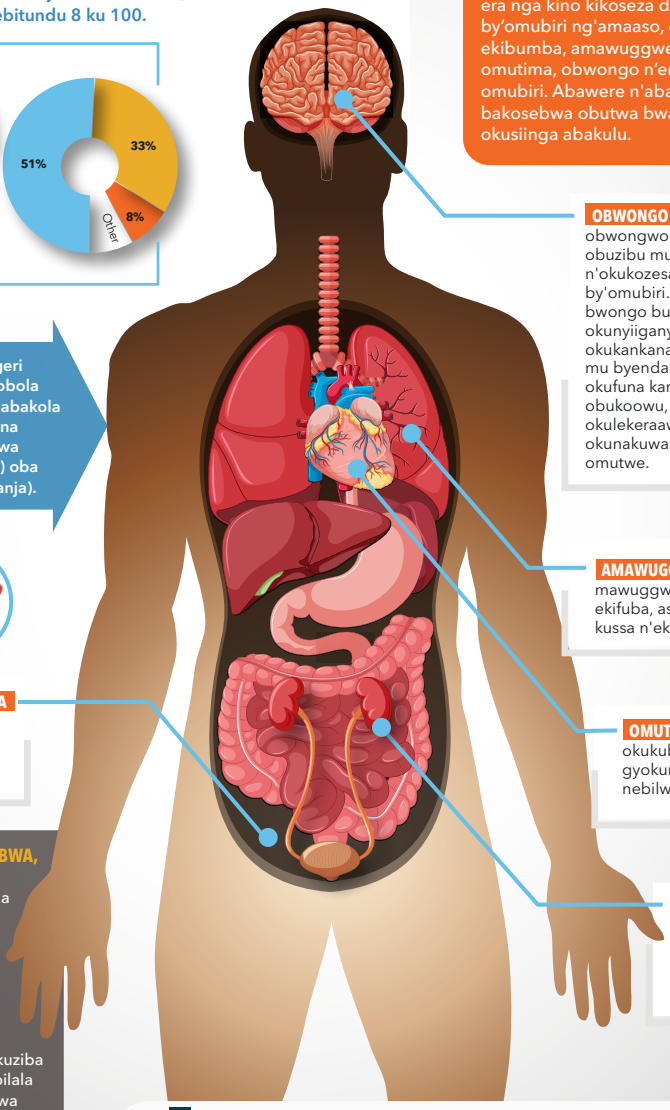
Ministry of Foreign Affairs of the Netherlands
Solidaridad
ACEMP

AKABI AKALI MU KUKOZESA **MERCURY**

Mu Uganda, **kiro 15,000** nokusukka eza mercury zikozesebwa ebitundu by'abantu 73 ku 100 ab'ebyemikono n'abalina bizinensi entonotono mu mirimu gyabwe ejja zaabu buli mwaka (NBO,2019). Ekitundu ekyo masekkati kyekisinga okukozesa mercury, **kiro 7,800** n'okusukka buli mwaka nga bibeera ebitundu 51 ku 100; nga kigobelerwa ekitundu ekyebuva njuba ne **kiro 5,000** n'okusukka nga bibeera ebitundu 33 ku 100 ne Karamoja ewezza **kiro 1,200** n'okusukka nga bibeera ebitundu 8 ku 100.



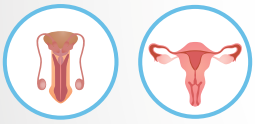
Okukozesa ennyo mercury mu birombe bya zaabu kuletera abakozi okufuna obuvune olw'obutwa obuli mu mercury era nga kino kikoseza ddala ebitundu by'omubiri ng'amaaso, olususu, ekibumba, amawuggwe, ensigo, omutima, obwongo n'enkola etambuza omubiri. Abawere n'abaana abato bakosebwa obutwa bwa mercury okusiinga abakulu.



OBWONGO Okukosa obwongwo lubeerera, obuzibu mu kutambula n'okukozesa ebitundu by'omubiri. Obuvune ku bwongo busobola okuletera okunyiiganyiiga, ensonyi, okukankana, enkyukakyuka mu byendaba, okwelabira, okufuna kamunguluze, obukoowu, okuziba amaaso, okulekeraawo okuwulira, okunakuwala n'okulumizibwa omutwe.

EKIFAANANYI kino kiraga engeri obutwa bwa mercury gye busobola okukosaamu obulamu bwabo abakola mu birombe n'abantu abalilaana ebirombe ngasikka omukka gwa mercury (nga zaabu akolebwa) oba nebagulya (nga balya ebyenyanja).

AMAWUGGWE Obuvune ku mawuggwe, obulwadde, ekifuba, asima, obuzibu mu kussa n'ekifuba okwekwaata.



ENKOLA Y'EBITUNDU BY'EKYAMA
Kizaala gumba mu baami n'abakyala, n'okuzaala abaana abaliko obulemu.

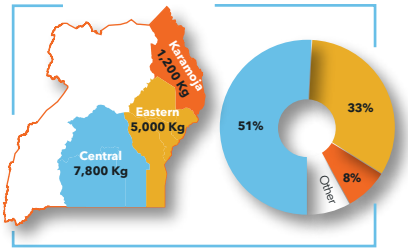
OMUTIMA Omutima okukuba ennyo, emisuwa gyokumutima okuziba nebilwadde ebilala bingi.

ABAANA ABATANABA KUZAALIBWA, ABAWERE N'ABAANA ABATO.
Mercury mu mubiri gwa maama asobola okugenda paka ku mwana ali mu lubuto era asobola nokumutuukako mu kuyitira mu mabeere ng'amuyoonsa. Kisobola okuleeta obuvune ku bwongo, okugwa eddalu, obutakozesa bulungi bitundu bya mubiri, okuziba amaaso, ensiimbu n'ebizibu ebilala mu baana abatanaba kuzaalibwa n'abawere.

ENSIGO Ensigo okufuna obuvune era nelekeraawo okukola ekijjiretera okulemelerwa.

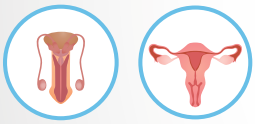
DANGERS OF **MERCURY** IN MINING

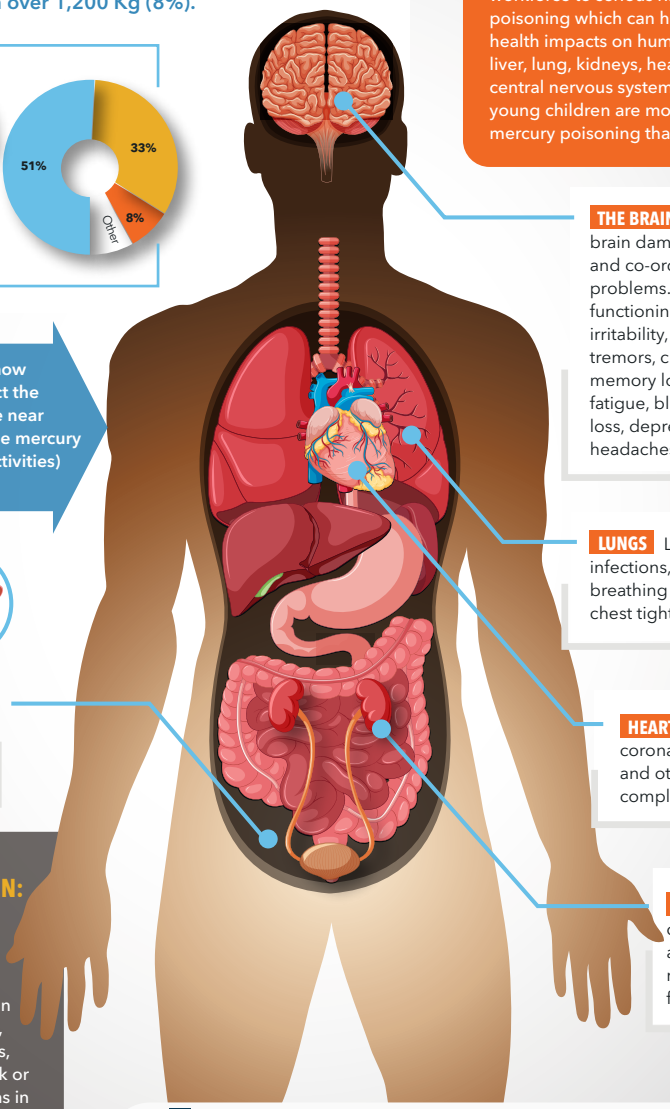
In Uganda, over **15,000 Kg** of mercury are used by 73% of artisanal and small-scale miners in their gold operations every year. Central Region uses the highest amount of mercury, over **7,800 Kg** per year (51%); followed by the Eastern Region with over **5,000 Kg** (33%) and the Karamoja Region with over 1,200 Kg (8%).



The rampant use of mercury in gold mining operations exposes the workforce to serious risk of mercury poisoning which can have devastating health impacts on human eyes, skin, liver, lung, kidneys, heart, brain and central nervous system. Infants and young children are more vulnerable to mercury poisoning than adults.

This ILLUSTRATION shows how mercury poisoning can affect the health of miners and people near mining areas who may inhale mercury (through gold processing activities) or ingest it (by eating fish).





THE BRAIN Permanent brain damage, movement and co-ordination problems. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision, memory loss, drowsiness, fatigue, blindness, hearing loss, depression and headaches.

LUNGS Lung damage, infections, cough, asthma, breathing difficulties and chest tightness.

HEART Hypertension, coronary heart disease and other cardiac complications.

KIDNEYS Kidney complications and dysfunction resulting in renal failure.

REPRODUCTIVE SYSTEM
Reduced fertility in males and females, birth of abnormal offspring.

UNBORN CHILDREN, INFANTS AND CHILDREN:
Mercury in the mother's body passes to the foetus and can also pass to a nursing infant through breast milk. It can cause brain damage, mental retardation, poor coordination, blindness, seizures, an inability to speak or walk and other complications in unborn children and infants.

Notes

RESERVE YOUR SEAT TODAY!

The 5th Annual Great Lakes Mining and Energy Mkutano will take place 24-25 November 2023

To register, please log on to **www.asmq.ug** and follow the prompts

Alternatively, you can send an e-mail expressing your interest to attend to **info@asmq.ug**

To book a stall in the exhibition, please call **+256 394 003 934** or send an e-mail to **reservations@asmq.ug**

#ASMQUG **@ASMQUG**