Undermining Africa

Paladin Energy's Kayelekera Uranium Mine in Malawi

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The Kayelekera Uranium Mine, Malawi.

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Chapter One
Executive Summary

Perth-based uranium mining company Paladin Energy put one of its two operating mines – the Kayelekera uranium mine in Malawi – into care-and-maintenance in May 2014. The company was put into administration in July 2017. It was restructured and relisted on the Australian Securities Exchange in February 2018.[1] However, just three months later, Paladin's only other mine – the Langer Heinrich uranium mine (LHM) in Namibia – was also put into care-and-maintenance.[2]

With no operating mines, Paladin's future is bleak. An important question arising from Paladin's situation is whether the two uranium mines in Africa will be adequately rehabilitated; indeed, whether they will be rehabilitated at all.

Under the leadership of founder and CEO John Borshoff, described as the grandfather of Australian uranium, Paladin opened LHM in 2007 and Kayelekera in 2009. There was much talk about a nuclear power 'renaissance' and this was reflected in a uranium price bubble: the spot price tripled between June 2006 and June 2007.[3]

The *Australian Financial Review* reflected on Paladin's glory days: "John Borshoff was once one of Western Australia's wealthiest businessmen. The founder of Perth-based Paladin Energy developed an enviable portfolio of African uranium mines supposed to satiate booming global demand for yellowcake. When the company's Langer Heinrich mine began shipments in March 2007, as the spot price for uranium eclipsed $US100 per pound, Paladin was worth more than $4 billion."[4]

Paladin "was formerly a multi-billion-dollar company and was once the best-performed stock in the world" according to *The Australian* newspaper.[5] The company's share price went from one Australian cent in 2003 to A$10.80 in 2007. Borshoff made his debut on the *Business Review Weekly's* 'Rich 200' list in 2007 with estimated wealth of A$205 million.[6]

However Paladin's star began to wane in mid-2007 with the burst of the uranium bubble, and then in 2011 the Fukushima disaster ensured that the uranium industry would remain depressed for years to come.

As mentioned, Kayelekera was put into care-and-maintenance in May 2014, and LHM was put into care-and-maintenance in May 2018. That leaves Paladin with a number of what it describes as 'nonproducing assets' – the two mines in Africa plus others such as uranium projects in Australian jurisdictions that ban uranium mining.

Paladin hopes to resume mining at Kayelekera and LHM following "normalization" of the uranium market, which it anticipates in a few years.[7] However low prices could be the new normal. John Borshoff said in 2013 that the uranium industry "is definitely in crisis ... and is showing all the symptoms of a mid-term paralysis".[8] Former World Nuclear Association executive Steve Kidd said in May 2014 that the industry is set for "a long period of relatively low prices".[9] Nick Carter from Ux Consulting said in 2016 that he did not anticipate a uranium supply deficit until the late 2020s.[10] Other industry insiders and market analysts have made similar comments about the bleak future for uranium.[11] Borshoff left Paladin in 2015 and new CEO Alexander Molyneux said in 2016 that "it has never been a worse time for uranium miners".[12] The situation has worsened since 2016 for the uranium industry – prices have fallen further still.[13]

The decision to put LHM into care-and-maintenance illustrates the dire situation facing the uranium industry. Paladin claims LHM is the lowest cost open-pit uranium mine in the world.[14] Moreover, the company wasn't even paying to mine ore – mining ceased in November 2016 and since then ore stockpiles have been processed.[15] So a low-cost mine couldn't turn a profit processing mined stockpiles. The cost of production was US$23.11/lb U3O8 in December 2017, and the average sale price in the second half of 2017 was $21.82.[16]

Paladin narrowly avoided liquidation after being placed into administration in July 2017. However the company's future is bleak. In January 2018, Paladin's administrator KPMG noted that an Independent Expert's Report found that the company's net debt materially exceeds the value of its assets, its shares have nil value, and if Paladin was placed into liquidation there would be no return to shareholders.[17] With LHM now being placed into care-and-maintenance, Paladin's situation is worse still.

Rehabilitating Kayelekera

The prospects are particularly bleak for a restart of the Kayelekera mine – it is a much smaller deposit than LHM and much more expensive to mine. Paladin has said that a uranium price of about US$75 / lb U3O8 would be required for Kayelekera to become economically viable.[18] That is well over twice the current long-term contract price and more than three times higher than the spot price.[19] The spot price hasn't reached US$75 since early 2008 – the tail-end of a price bubble.[20] The long-term price hasn't reached US$75 since September 2008 – also the tail-end of a price bubble.[21]

Paladin has also said that connection of the mine to the electricity grid is a "precondition" of any decision to recommence operations.[22] That remains another obstacle to a resumption of mining.

Paladin itself said in 2014 that a resumption of production at Kayelekera was not likely in the medium term.[23]

Even if the uranium price did rebound and the mining resumed, Kayelekera is a relatively small deposit and would operate for only 3–5 years according to Paladin.[24]

Sooner or later – probably sooner – the Kayelekera mine-site will need to be rehabilitated. Paladin was required to lodge a US$10 million Environmental Performance Bond with Malawian banks, and presumably that money can be accessed to rehabilitate Kayelekera.[25] But US$10 million is not sufficient for the job. According to a Malawian NGO, the rehabilitation cost is estimated at US$100 million.[26] Paladin has ignored repeated requests to provide its estimate of the cost of rehabilitating Kayelekera, and the company says that the US$100 million estimate is higher than its own. Nevertheless it can be said with confidence that the figure will be multiples of the US$10 million bond.

Paladin's 2017 Annual Report lists a 'rehabilitation provision' of US$86.93 million to cover both LHM and Kayelekera.[27] One problem is that the funds might not be available for rehabilitation if Paladin goes bankrupt. A second problem is that even if the funds are available, they are unlikely to be sufficient. For comparison, Energy Resources of Australia's provision for rehabilitation of the

Ranger uranium mine in Australia – also an open-pit uranium mine – is US$403 million (A$526 million).[28] That figure is additional to US$346 million (A$452 million) already spent on water and rehabilitation activities since 2012[29] – thus total rehabilitation costs could amount to US$749 million (A$978 million). Moreover, current cost estimates could easily increase as they have in the past.

Rehabilitation of LHM and Kayelekera would likely be cheaper than rehabilitation of Ranger, for several reasons including the relative size of the mine-sites. However it stretches credulity to believe that the cost of rehabilitating both LHM and Kayelekera would be an order of magnitude lower than the cost of rehabilitating one mine in Australia.

The failure to set aside adequate funds for rehabilitation would not be so alarming if Paladin was flush with cash and producing assets – but it is cash-poor and flush with nonproducing assets (some of which it has tried but failed to sell).

If Paladin goes bankrupt and fails to rehabilitate Kayelekera, either rehabilitation will be coordinated and funded by the Malawian government (with a small fraction of the cost possibly coming from Paladin's Environmental Performance Bond) or the mine-site will not be rehabilitated at all. Even if Paladin is able to honour its US$86.93 million provision, additional costs necessary for rehabilitation of Kayelekera and LHM will likely come from the Malawian and Namibian governments, or rehabilitation will be partial and sub-standard.

Uranium production at Paladin Energy's uranium mines in Africa (tonnes uranium):

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Langer Heinrich	919	1108	1419	1437	1960	2098	1947	1937	1893	1308	16,026
Kayelekera	–	104	670	846	1101	1132	369	–	–	–	4,222
Combined % world production	2.1%	2.4%	3.9%	4.3%	5.2%	5.4%	4.1%	3.2%	3.1%	2.2%*	

Source: Data compiled by World Nuclear Association data, www.world-nuclear.org
** Based on estimated world production of 60,000 tU.*

Australia's responsibility

Assuming that Paladin's provision for the rehabilitation of Kayelekera is inadequate (or unavailable in the case of bankruptcy), the question arises: is it reasonable for Australia, a relatively wealthy country, to leave it to the overstretched, under-resourced government of a small African nation to clean up the mess left behind by an Australian mining company? If the Malawian government cleans up Paladin's mess, that will come at the expense of other priorities. Malawi is one of the poorest countries in the world. According to a 2013 United Nations report, more than half the population live below the poverty line, and about half of all children under the age of five show signs of chronic malnutrition.[30]

Australia's Foreign Minister Julie Bishop should intervene in an effort to improve the likelihood of a proper rehabilitation of Kayelekera. In additions to moral arguments that could be raised about the importance of Australia being a good corporate citizen, there is also a hard-headed commercial argument for intervention to clean up Kayelekera. It does Australian companies investing in mining ventures abroad no good whatsoever to have Kayelekera left unrehabilitated, a permanent reminder to all of the credibility gap and unfulfilled promises of an Australian miner.

Thus the primary recommendation of this report is that the Australian and Western Australian governments and Paladin Energy should liaise with the Malawian government and Malawian civil society to ensure that a proper rehabilitation of Kayelekera is undertaken when the decision is made to permanently close the mine.

One option that should be considered is to move quickly to rehabilitation as an alternative to Paladin's current strategy of paying US$10–12 million annually to keep Kayelekera in care-and-maintenance.[31] It makes little sense to continue to pay US$10–12 million annually given the bleak prospects for a restart and the small size of the uranium resource.

Broader problems

Paladin exploited Malawi's poverty to secure numerous reductions and exemptions from payments normally required by foreign investors. United Nations' Special Rapporteur Olivier De Schutter noted in a 2013 report that "revenue losses from special incentives given to Australian mining company Paladin Energy, which manages the Kayelekera uranium mine, are estimated to amount to at least US$205 million (MWK 67 billion) and could be up to US$281 million (MWK 92 billion) over the 13-year lifespan of the mine."[32]

Paladin's environmental and social record has also been the source of ongoing controversy and the subject of numerous critical reports.[33] The WISE-Uranium website has a 'Hall of Infamy' page dedicated to the company.[34]

Standards at Kayelekera fall a long way short of Australian standards – and efforts to force Australian mining companies to meet Australian standards when operating abroad have been strongly resisted. Paladin's Kayelekera project would not be approved in Australia due to major flaws in the assessment and design proposals, independent consultants concluded.[35]

Sadly, these are familiar problems. Julie Bishop told the Africa Down Under mining conference in Western Australia in September 2017 that many Australian mining projects in Africa are outposts of good governance.[36] The Australian government "encourages the people of Africa to see us as an open-cut mine for lessons-learned, for skills, for innovation and, I would like to think, inspiration," Bishop said.[37]

Such claims sit uneasily with the highly critical findings arising from a detailed investigation by the International Consortium of Independent Journalists (ICIJ).[38] The ICIJ noted in its 2015 report that since 2004, more than 380 people have died in mining accidents or in off-site skirmishes connected to Australian mining companies in Africa.[39] There have been six deaths at Kayelekera (see chapter 5.3) and at least one death at LHM.[40]

The ICIJ report further stated: "Multiple Australian mining companies are accused of negligence, unfair dismissal, violence and environmental law-breaking across Africa, according to legal filings and community petitions gathered from South Africa, Botswana, Tanzania, Zambia, Madagascar, Malawi, Mali, Cote d'Ivoire, Senegal and Ghana."[41]

Chapter Two
Mining Industries in Africa

2.1 Mining in Africa

Africa's involvement in the international trade of manufactured goods and services is limited; however the continent is recognised internationally for its under-explored minerals sector. Current trends in extractive industries indicate that a significant proportion of worldwide reserves are located in Africa: 30% of bauxite, 60% of manganese, 75% of phosphates, 85% of platinum, 60% cobalt, 30% of titanium, and 18% of uranium.[42]

Although substantial reserves may be perceived as a potential catalyst for economic development, prospects for sustainable and widespread growth within this industry face numerous challenges. Poor governance (involving legislation, regulation, corruption, and resource and capacity constraints amongst other issues) and a lack of transparency hinder the economic contribution of the mining sector to African GDP and can result in detrimental environmental impacts and social problems affecting workers (inadequate OH&S) and local communities.[43]

2.2 Uranium Mining in Africa

Uranium mining in Africa has a long history. The Shinkolobwe mine in Katanga province in the Democratic Republic of Congo (DRC) began to attract investors from colonial Belgium, after uranium was discovered there in 1915.[44] The mine was closed in 1960 as the DRC became independent and mining became too costly, but uranium mining continued to occur on a smaller scale within African states for the next four decades.[45] Uranium mining in Niger began in 1971, with all output exported to France; while in Namibia, the Rossing mine has been operational since 1976. Uranium mining in South Africa began in 1951, near Johannesburg.[46]

There was some expectation that uranium mining in Africa might surge over the past decade in the context of a nuclear power 'renaissance'. For example, the South African Institute of International Affairs produced a report in 2012 titled 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance'.[47] Uranium production did increase, reaching 10,631 tonnes of uranium in 2012 or 18% of world production (of which 1,101 tonnes of uranium was produced in Malawi).[48] Four African countries have produced uranium in recent years: Malawi (1.9% of global production in 2012), Niger (8.3%), Namibia (7.3%), and South Africa (0.8%).[49]

However, the global nuclear 'renaissance' did not materialise, and the uranium market has been in a protracted slump since the Fukushima nuclear disaster in Japan in March 2011. Uranium production in Africa fell to 8,238 tonnes of uranium in 2014 (369 tU in Malawi), a 12.4% decrease from the 2012 figure[50], with a further reduction to 7,623 tU in 2016.[51]

A 2016 report by the OECD's Nuclear Energy Agency and the International Atomic Energy Agency (IAEA) noted that the decline of uranium production in Africa in recent years was a result of worsening market conditions "and in some cases, because of security and political issues."[52] The security concerns have been most acute in Niger.[53]

2.3 Australian Mining Companies in Africa

According to the Australia-Africa Minerals & Energy Group, Australia has doubled its investment in mining ventures in Africa to more than A$40 billion over the past decade, confirming its position as the largest foreign investor within Africa.[54] With an estimated 312 active projects in 34 countries, Foreign Minister Julie Bishop praised Australian projects as outposts of good governance at the September 2017 'Africa Down Under' conference in Perth, Western Australia.[55]

A 2011 Australian Senate Inquiry was generally supportive of Australian mining companies operating in Africa but expressed concern about the lack of mechanisms to address non-compliance with mining standards in African countries, and noted that some Australian companies are engaging in activities that would not be acceptable in Australia.[56] The Senate Inquiry recommended that the government should undertake steps to make Australia an Extractive Industries Transparency Initiative (EITI) compliant country and to continue to promote EITI principles and other corporate social responsibility instruments in the Australian mining sector. The EITI is a coalition of governments, companies and civil society groups, investors and international organisations, which has developed a global standard that promotes revenue transparency on a country level. It aims to strengthen governance by improving transparency and accountability over payments and revenues in the extractive industries sector.[57]

However, Australian and international civil society and advocacy groups have observed that due to uranium mining regulatory mechanisms being in their infancy, junior mining companies which lack the financial capacity to act in accordance to stricter regulations in experienced mining regions of North America, Australia and Europe have opted to engage in the minerals sector of African countries.[58] In 2006, John Borshoff, at that stage the CEO of Paladin Energy, said that mining standards in Australia and Canada had become "overly sophisticated" and "there has been a sort of overcompensation in terms of thinking about environmental issues, social issues, way beyond what is necessary to achieve good practice."[59]

Far more critical than the Australian Senate Inquiry was the International Consortium of Investigatory Journalists investigation and 2015 report, *Fatal Attraction: Australia's damaging push into Africa.*[60] Among the key findings of the investigation were the following:

- From 2004 to 2015, more than 380 people died in mining accidents or in off-site skirmishes connected to Australian publicly-traded mining companies in 13 countries in Africa.
- Australian mining companies are more numerous than those from other mining giants such as Canada, the United Kingdom and China. At the end of 2014, more than 150 companies held about 1500 licenses and owned or managed dozens of mining operations across 33 countries in Africa.
- Multiple Australian mining companies are accused of negligence, unfair dismissal, violence and environmental law-breaking across Africa, according to legal filings and community petitions gathered from South Africa, Botswana, Tanzania, Zambia, Madagascar, Malawi, Mali, Cote d'Ivoire, Senegal and Ghana.
- Australian state and federal government entities, including government workers' pension funds, have invested in controversial Australian mining companies operating in Africa.

Tracey Davies, an attorney with the Centre for Environmental Rights in Cape Town, South Africa, told the Fairfax press in July 2015 that she has witnessed a pattern of poor behaviour by Australian mining companies, a sentiment echoed by employees, villagers, tribal leaders, members of parliament and activists across Africa. "There is a very strong perception that when Australian mining companies come here they take every advantage of regulatory and compliance monitoring weaknesses, and of the huge disparity in power between themselves and affected communities, and aim to get away with things they wouldn't even think of trying in Australia," Davies said.[61]

The International Network for Economic, Social & Cultural Rights notes that poor governance in host countries is just part of the problem:[62]

"Beginning in 2004, the ICMM [International Council on Mining and Metals] set about shifting the spotlight away from their members for responsibility that comes with the widely acknowledged phenomenon of 'the resource curse'. This 'curse' is characterized by the relatively poor human rights, environmental and development track-records of those developing countries that have strongly embraced resource extraction as an economic model for development. ... The resource curse cannot simply be explained as a matter of the way governments manage resource revenues or handle community disputes. As has been argued repeatedly, companies have for many years made the most of the gaps in host governments' willingness or capacity to impose stringent environmental and human rights requirements (and therefore costs) on companies."

Chapter Three
Paladin Energy's Kayelekera Uranium Mine in Malawi

3.1 Paladin Energy

Paladin Energy Ltd. is a Western Australian uranium production company with mining projects in Australia, Canada and Africa. The two main uranium mining projects are the Langer Heinrich mine (LHM) in Namibia (in care-and-maintenance since May 2018) and the Kayelekera mine in Malawi[63] (in care-and-maintenance since May 2014) – all other projects involve uranium deposits that have not been mined.

3.2 History of the Kayelekera Uranium Mine in Malawi

The Kayelekera uranium deposit is located in northern Malawi, 52 km west of the township of Karonga. Kayelekera is owned 100% owned by Paladin Africa, a subsidiary of Paladin Energy Ltd.[64] In July 2009, Paladin issued 15% of equity in Paladin Africa to the Government of Malawi under the terms of the Development Agreement signed between Paladin and the Government in February 2007.[65]

The Central Electricity Generating Board of Great Britain (CEGB) discovered the Kayelekera sandstone uranium deposit in the early 1980s. CEGB spent US$9 million working on the project over an eight-year period, culminating in a full feasibility study in 1991 assessing the viability of a conventional open pit mining operation.[66] This study concluded that the project was uneconomic due to low uranium prices prevailing at that time.[67] The project was abandoned in 1992 due largely to the poor uranium outlook, as well as privatisation of CEGB and resultant pressure to return to its core business.[68] In 1998, Paladin acquired a 90% interest in Kayelekera through a Joint Venture with Balmain Resources Pty Ltd, which then held exploration rights over the project area.[69] In July 2005, Paladin acquired the remaining 10% interest held by Balmain.[70]

In April 2005, a US$2.3 million Bankable Feasibility Study was approved in order to coincide with the pre-feasibility documentation.[71] Prior to operations commencing at Kayelekera, the Mineral Policy Institute commissioned a report by Dr. Gavin Mudd and Howard Smith assessing the Environmental Impact Statement.[72] The report indicated there was a lack of sufficient engineering design detail for components of the project, inadequate discussion of potential issues concerning acid mine drainage, a poorly structured long term tailings management plan and an inadequate rehabilitation plan.[73]

Non-governmental organisations within Malawi – including the Centre for Human Rights and Rehabilitation, Citizens for Justice, Foundation for Community Support Services, Karonga Development Trust and the Uraha Foundation – issued a joint statement highlighting how uranium mining in Malawi threatened the Sere Stream, Rukuru River and Lake Malawi.[74] Some NGOs began legal action seeking to halt the mine or to secure stronger environmental protections and greater transparency.[75] A settlement was reached with Paladin agreeing to some of the NGO's demands.

Despite the criticisms, Paladin and the Malawian Government finalised the Bankable Feasibility Study, the Development Agreement and the full Environmental Impact Assessment and in April 2007 a Mining Licence covering 5,550 hectares was approved for 15 years.[76] According to Paladin Energy, construction of the project began in June 2007 with an estimated cost of US$200 million.[77]

3.3 Kayelekera's Operational Phase

Open pit mining commenced in May 2008, with the first blast taking place on July 24, 2008.[78] The Kayelekera uranium deposit was intended to provide annual production of 3.3 million pounds of uranium oxide from the processing of 1.5 million tonnes per annum of sandstone and associated ores by grinding, acid leaching, resin-in pulp extraction, processes of elution, precipitation and drying.

First production was obtained in early April 2009, with the mine officially opened on April 17, 2009 by the then President of Malawi, Dr Bingu wa Mutharika.[79] From 2010 to 2014, the mine produced 10.9 million pounds (4,944 tonnes) of uranium oxide (equivalent to 4,222 tonnes of uranium). Kayelekera had the capacity to generate approximately 3.3 million pounds per year, however peak production was attained in 2013 at 2.96 million pounds. According to Paladin, about 40% of the Kayelekera uranium deposit has been mined.[80]

3.4 Kayelekera's Care-and-Maintenance Phase

Falling uranium prices, exacerbated by the March 2011 Fukushima nuclear accident, led Paladin to announce in February 2014 that the Kayelekera mine would be put into care-and-maintenance. The processing of ore and reagent rundown continued until the site was placed under care-and-maintenance in May 2014.[81] Although mining operations at Kayelekera are suspended, Kayelekera continues to conduct maintenance activities including the use of energy from diesel generators, which consumes 5,000 litres daily[82]. The annual cost of maintaining Kayelekera in care-and-maintenance mode is US$10–12 million.[83]

Paladin said in 2014 that its decision to place Kayelekera on care-and-maintenance "is the latest in a sequence of closures, production suspensions and deferrals of major planned greenfield and brownfield expansions in the uranium sector, including Paladin's decision in 2012 to suspend evaluation of a major Stage 4 expansion of the Langer Heinrich Mine in Namibia."[84]

3.5 Paladin's Appointment of Administrators

Paladin announced plans for a balance sheet restructuring in order to allow deadlines for debts due in April 2017 to be met, after a proposal to sell a 24% stake in the Langer Heinrich uranium mine in Namibia to China's CNNC Overseas Uranium Holdings did not progress.[85] CNNC, which already owns a 25% joint equity stake in the Langer Heinrich project, began a process in which it could exercise contractual rights to acquire all of Paladin's share of Langer Heinrich, however CNNC decided not to exercise its option to purchase Paladin's 75% stake.[86]

Paladin's inability to meet a deadline for a US$277 million payment to Électricité de France (EDF), and EDF's unwillingness to renegotiate terms, was the trigger that led to Paladin filing to be placed under administration in July 2017. Tensions between Paladin and EDF stretch back years, and primarily concern a contract involving EDF's prepayment for uranium.[87,88]

In July 2017, administrators from KPMG were appointed by Paladin's board in order to undertake financial and operational assessments to assess the future options (if any) for Paladin Energy and its subsidiaries.[89]

Paladin's shares were delisted from the Toronto Stock Exchange in August 2017, and trading in Paladin shares on the Australian Stock Exchange was suspended in June 2017. The company was restructured and relisted on the Australian Securities Exchange in February 2018 (and Paladin's Canadian share sub-register was transferred to its Australian register).[90] However, just three months later, LHM was put into care-and-maintenance.[91] As discussed in the following chapter, the company's future is bleak.

Chapter Four:
The Need to Fund and Plan for Rehabilitation of the Kayelekera Mine

4.1 The Broader Context of Mine Rehabilitation Issues in Africa

Rehabilitation refers to the steps taken to repair the environment from damage and includes processes of decommissioning as well as ecological restitution. In terms of the process of assessing an abandoned or inactive mine site for the purpose of rehabilitation, it is imperative to address issues pertaining to the age of the mine site, the level of environmental impact presented by the site, health issues and public safety, social issues, availability of government support and the commitment of the community to rehabilitation.[92]

Rehabilitation of mines has been problematic in various jurisdictions in Africa. Many of the legacy issues have occurred as a result of poor regulatory frameworks. An international comparative assessment of mine closure conducted by the University of Witwatersrand (Wits) Centre for Sustainability in Mining and Industry indicated that, despite challenges, South Africa was further advanced than most countries in the region in relation to addressing both environmental and social impacts of mine closure.[93] South Africa has incorporated regulations regarding the financial capacity of entities to engage in mining operations under the National Environmental Management Act which include the life cycle of a mine, rehabilitation at closure and rehabilitation of latent or residual impacts that might arise long after mining has stopped.[94]

To some extent in South Africa, and certainly elsewhere in Africa, weak regulatory frameworks allow investors to avoid rehabilitation of once operational mines, and mining companies may have an incentive to avoid decommissioning and rehabilitation due to the significant costs involved – a financial challenge that may be exacerbated by the cessation of the revenue stream from mining.[95]

In Malawi, civil society groups have long fought for a strengthening of mining regulations, including regulations pertaining to mine-site rehabilitation.

Funding for mine rehabilitation should be set aside before mining commences to ensure that funds will be available even in a worst-case scenario such as the mining company going bankrupt. The Chamber of Mines of South Africa, in a 2007 report on mine-site rehabilitation, stated: "Rehabilitation is an expensive business, which can account for as much as 10% of mining costs in certain circumstances. As the majority of these costs are usually incurred after mine closure, or at least after a significant portion of mining has been completed, some form of guarantee is usually required by authorities to ensure that these costs are met. In addition, there is now a requirement to provide financial assurance that the costs of rehabilitation will be met in the case of early or unplanned closure."[96]

4.2 Prospects for the Kayelekera Mine

Paladin claims that it hopes to restart the Kayelekera mine at some unspecified future date but the likelihood of a restart is minimal and receding.

Paladin states: "It is expected that the mining and milling operation will be quickly and effectively re-started when market conditions make it attractive to do so."[97] Such statements ignore obvious problems such as the time and expense involved in establishing a workforce to operate the mine. There are two further sets of problems, discussed below. Firstly, Paladin has been put into administration once already, and the company's future prospects are bleak following the May 2018 decision to put LHM into care-and-maintenance. Secondly, the uranium market is in a protracted slump and expert opinion is increasingly leaning towards the view that the slump will persist well into the 2020s.

4.3 Paladin's Bleak Future

Paladin's two uranium mines in Africa are both in care-and-maintenance. Paladin also owns various 'nonproducing assets' in Australia, Canada and Niger.[98] In 2016, Paladin sold a number of Australian uranium exploration projects to Uranium Africa for just A$2.5 million, including Oobagooma in Western Australia and the Angela/Pamela and Bigrlyi projects in the Northern Territory.[99] Also in 2016, Paladin sold its 257.5 million shares in uranium exploration company Deep Yellow for A$2.6 million, with shares priced at one Australian cent per share.[100]

Paladin has tried but failed to sell other 'nonproducing assets' such as its 30% stake in the Manyingee uranium project in Western Australia.[101] Development of Manyingee (and all other non-approved deposits) is prohibited under the policy of the current Western Australian government.

Likewise, Paladin has a stake in two undeveloped uranium projects in Queensland – Mount Isa North Project and the Valhalla North Project[102] – but the development of those mines is prohibited under the policy of the current Queensland government. In 2015, Paladin booked a A$323.6 million write-down on its exploration assets in Queensland.[103]

Paladin's share price went from one Australian cent in 2003 to A$10.80 in 2007, but fell more than 200-fold and traded at 4.7 cents before trading was suspended in June 2017.[104] (Trading resumed in February 2018 – the share price was 18 Australian cents as of 13 June 2018.) The company was delisted from the Toronto Stock Exchange in August 2017 due to its failure to meet the exchange's requirements for continued listing.[105] Paladin's losses totalled US$1.9 billion between 1994 and 2014.[106]

The company's prospects appear to be very bleak. It is poorly placed to be sitting on dormant mines in Africa – and other nonproducing assets – for years to come in the hope of a uranium market revival.

4.4 The Uranium Market

"It has never been a worse time for uranium miners." – Alexander Molyneux, CEO of Paladin Energy, October 2016.[107]

Paladin has said that a price of about US$75 per pound of uranium oxide would be required for Kayelekera to become economically viable.[108] In Paladin's words, the company would "not contemplate any such an expansion until uranium prices reach at least US$75/lb and are sustainable at or above this level."[109]

US$75/lb is far higher than the prevailing prices as of 31 May 2018: US$22.73 spot price and US$29.00 long-term contract price.[110] The spot price hasn't reached US$75 since early 2008 – the tail-end of a price bubble.[111] The long-term price hasn't reached US$75 since September 2008 – also the tail-end of a price bubble.[112]

Paladin also said that the availability of grid power supply would be necessary to restart Kayelekera, to replace the existing diesel generators which are expensive to run.[113]

Even if the uranium price did rebound and the mining resumed, Kayelekera would operate for only 3–5 years according to a 2014 Paladin document[114] – it isn't a large uranium deposit.

Of course, it is possible that uranium prices could rise such that Kayelekera could be restarted and operate profitably. However the likelihood of that scenario eventuating in the foreseeable future is remote. Numerous nuclear and uranium industry insiders, along with uranium market analysts, anticipate depressed prices for many years ahead. For example:

- Then Paladin Energy chief executive John Borshoff said in 2013 that the uranium industry "is definitely in crisis ... and is showing all the symptoms of a mid-term paralysis".[115]
- Former World Nuclear Association executive Steve Kidd said in May 2014 that "the case made by the uranium bulls is in reality full of holes" and he predicted "a long period of relatively low prices, in which uranium producers will find it hard to make a living".[116]
- An October 2015 report in *Nuclear Engineering International* noted that "there may not be much upward pressure on market prices until the next decade" as "excess supply is expected to persist."[117]
- Nick Carter from Ux Consulting said in April 2016 that the spot uranium price could stay in the low $30s/lb "for quite some time" because supply is expected to exceed demand by 25–30

million pounds U3O8 each year from 2016 to 2019, and he does not anticipate a supply deficit in the market until "the late 2020s".[118]

- The *Wall Street Journal* reported in September 2016: "There is too much of nearly every commodity in the world today. Then there is uranium. The outlook for the element that powers nuclear reactors may be worse than for any other, and there is almost no prospect for improvement soon. Unlike other commodities, low prices won't stimulate demand. No commodity faces the unique pressure that uranium and nuclear fuel do and there is little prospect of a near-term recovery."[119]

An article in the *Nuclear Monitor* newsletter, published by the World Information Service on Energy, explains the uranium industry's malaise:[120]

"There are numerous reasons why the uranium market is likely to remain depressed for the foreseeable future. The most important are as follows:
1. Nuclear power is unlikely to expand. Stagnation or slow decline are the most likely scenarios over the next 20 years, and if there is any growth it will be slight.
2. Uranium is plentiful. At the 2016 level of uranium requirements (63,404 tonnes of uranium), identified resources are sufficient for 121 years of supply of the global nuclear power fleet (at its current capacity of 392 gigawatts). From 2012 to 2014, uranium was produced in no less than 21 countries.
3. Stockpiles (inventories) are massive and still growing. Global stockpiles have grown sharply since the Fukushima disaster and now amount to more than 1.4 billion pounds U3O8 according to Ux Consulting or 1.2 billion pounds according to the OECD's 2016 Red Book. Thus stockpiles alone would suffice to keep the entire global reactor fleet operating for around eight years. And stockpiles continue to grow – supply from mines and secondary sources currently exceeds demand by about 30 million pounds U3O8 per year or 18%.
4. Secondary sources – i.e. sources other than newly-mined uranium – continue to contribute significantly to oversupply. Secondary sources include government and commercial inventories, reprocessed uranium, underfeeding at enrichment plants (extracting more U-235 per given volume of feedstock), uranium produced by the re-enrichment of depleted uranium tails, and low-enriched uranium produced by blending down highly enriched uranium (typically from military sources).
5. Enrichment oversupply. The overcapacity and low cost of uranium enrichment services has emerged as a significant factor undermining the uranium industry. Cheap, abundant enrichment capacity can substitute for newly mined uranium, either by extracting more uranium-235 during uranium enrichment, or re-enriching tails. This has and will continue to keep uranium prices down. Platts noted in April 2016 that enrichment companies are using their excess enrichment capacity to bring an estimated 15 million lb U3O8 equivalent to the market annually[8] – that equates to almost 10% of annual demand."

4.5 The Need to Plan for Rehabilitation

The prospects for the Kayelekera uranium mine are extremely poor in light of the uranium market's protracted slump and the poor prospects of a market revival in the coming decade. Nor does the history of the mine inspire confidence. Paladin's general manager Greg Walker noted in March 2014 that the mine is a "loss-making entity" and that "the mine has no economically recoverable ore as we're operating at a loss".[121]

Another consideration is that the Kayelekera mining licence granted to Paladin in April 2007 is valid for a period of 15 years.[122] It can be confidently predicted that mining will not resume before the licence expires in April 2022, in which case the options would be a licence extension or closure of the mine.

Another consideration is the modest amount of uranium remaining to be mined at Kayelekera. Paladin states that economic analysis indicated a break-even cut-off grade of 400ppm U3O8. Using that cut-off figure, Paladin provides the following figures:[123]
Proven: 457 tonnes of uranium (tU)
Probable: 4,709 tU
Total: 5,166 tU
Stockpiles: 1,199 tU

At the production rate Paladin achieved before the mine was planned into care-and-maintenance (close to nameplate capacity of 3.3 million pounds U3O8 p.a.[124] – approximately 1,500 tU), the mine would only operate for around four years even if it is restarted. If restarted, the mine would operate for 3–5 years according to a 2014 Paladin document.[125]

In a 2013 report, Paladin gave a number of reasons for its high production cost at Kayelekera. All of the factors listed then still apply. The report stated: "Kayelekera Mine is one of the higher cost uranium producers worldwide. This is due to a variety of factors, including its remote location; the poor level of infrastructure and support services available in Malawi; inability to-date of Malawi to supply grid power to Kayelekera Mine; and the lack of suitably-qualified and experienced local workforce in key areas of operation, necessitating reliance on expatriate expertise ..."[126]

In April 2014, when Paladin was preparing to put Kayelekera into care-and-maintenance, the company insisted that it was not permanently closing the mine but was "drafting a closure plan detailing the work necessary to dismantle plant and equipment, rehabilitate the site and institute a post-mining monitoring programme when closure finally eventuates."[127] That closure and rehabilitation plan has not been publicly released.

It is unlikely that another mining company would be interested in acquiring a mine that lost money while in operation, has been in care-and-maintenance since May 2014, and would require substantially higher greater uranium prices to be economically viable. Thus, securing funds to properly rehabilitate Kayelekera is a priority.

Even if the mine is restarted, either by Paladin or a new owner, it will be closed 3–5 years after mining resumes and then rehabilitation will be required.

Securing funds to properly rehabilitate Kayelekera is necessary and important regardless of the timeline. Adequate funds ought to have been set aside already, but have not been. This failure to ensure adequate rehabilitation funding and capacity now needs to be actively addressed.

4.6 Environmental Performance Bond and the Cost of Rehabilitation

In February 2008, then Malawian Energy and Mines Minister Henry Chimunthu Banda said that Paladin would open an account with a local bank with an amount that would be quantified yearly and expected to increase depending on the anticipated environmental damage at Kayelekera. He said: "The idea is that at any time the mine closes, there has to be money to address environmental issues."[128]

In 2013, Paladin's General Manager for International Affairs Greg Walker said that the company had a US$10 million Environmental Performance Bond – in the form of irrevocable letters of credit – with two commercial banks in Malawi (Standard Bank Limited and Nedbank Malawi Limited).[129] The bond is to cater, among other things, for rehabilitation costs during and after the life of the Kayelekera mine.[130] Walker said the bond meant that Paladin was compliant with Clause 18.14(a) of its Mining Development Agreement with the Government of Malawi.[131]

The Mining Development Agreement states that Paladin shall maintain an "environmental performance bond" to "cater for costs of rehabilitation in areas where the Company or its activities shall show signs of default during and after the mine life. Such activities shall include but no limited to failure in performance of tailings storage facilities, contamination of water resources and the environment and their clean up, sensitisation of the general public on the potential dangers associated with radioactive substances and procedures to prevent the general public from the negative effects of radioactive substances and revegetation".[132]

The Mining Development Agreement states the size of the bond may "be increased or decreased as the case may be every 2 years over the Life of Mine, in order to ensure the size of the environmental performance bond is equivalent to the rehabilitation costs projected in the Bankable Feasibility Study for the relevant 2 year period."[133]

The Mining Development Agreement includes a clause (18.17) detailing how the Government of Malawi can access bond funds if Paladin is in breach of its obligations.[134]

If Paladin is unable or unwilling to rehabilitate Kayelekera, the US$10 million Environmental Performance Bond can presumably be accessed to rehabilitate Kayelekera.[135] But US$10 million is not sufficient for the job. According to a Malawian NGO, the rehabilitation cost is estimated at US$100 million.[136] Paladin has ignored repeated requests to provide its estimate of the cost of rehabilitating Kayelekera, and the company says that the US$100 million estimate is higher than its own. Nevertheless it can be said with confidence that the figure will be multiples of the US$10 million bond.

Paladin's 2017 Annual Report lists a 'rehabilitation provision' of US$86.93 million to cover both LHM and Kayelekera.[137] One problem is that the funds might not be available for rehabilitation if Paladin goes bankrupt. A second problem is that even if the funds are available, they are unlikely to be sufficient. For comparison, Energy Resources of Australia's provision for rehabilitation of the Ranger uranium mine in Australia – also an open-pit uranium mine – is US$403 million (A$526 million).[138] That figure is additional to US$346 million (A$452 million) already spent on water and rehabilitation activities since 2012[139] – thus total rehabilitation costs could amount to US$749 million (A$978 million). Moreover, current cost estimates could easily increase as they have in the past.

Rehabilitation of LHM and Kayelekera would likely be cheaper than rehabilitation of Ranger, for several reasons including the relative size of the mine-sites. However it stretches credulity to believe that the cost of rehabilitating both LHM and Kayelekera would be an order of magnitude lower than the cost of rehabilitating one mine in Australia.

The failure to set aside adequate funds for rehabilitation would not be so alarming if Paladin was flush with cash and producing assets – but it is asset-poor and has no producing assets.

As things stand, if Paladin goes bankrupt and fails to rehabilitate Kayelekera, either rehabilitation will be coordinated and funded by the Malawian government (with a small fraction of the cost possibly coming from Paladin's Environmental Performance Bond) or the mine-site will not be rehabilitated at all. Even if Paladin is able to honour its US$86.93 million provision, additional costs necessary for rehabilitation will likely come from the Malawian and Namibian governments, or rehabilitation will be sub-standard.

Fines for non-compliance with rehabilitation obligations appear to be grossly inadequate. A 2011 Citizens For Justice report notes that Section 97 of the Mining Act 1981 permits the Minister to prosecute for failure to rehabilitate land subject to a prospecting or mining license.[140] However the fine might be as low as US$2000, inadequate to compel a corporation to comply.[141] Moreover, the issue of a fine might be irrelevant in the case of Paladin if the company goes bankrupt.

The 2011 Citizens For Justice report states:[142]

"In the event of closure of a mine, it is advisable to have in place a detailed closure plan funded by a rehabilitation bond. Policy, guidelines and a means of determining the quantum of the bond required for closure will need to be developed. If the Act aims at encouraging sustainability, then a means of returning land value is required and ongoing costs associated with land maintenance after mining should not be passed onto the Government or general public. All closure plans and initiatives must be designed such that they extend well beyond the life of the mine to encourage intergenerational sustainability. As the Act does not appear to deal with mine closure, it is recommended that a separate section be written to address this issue. When developing this section of the Act, it should be noted that the long-term impacts of some mineral wastes (e.g. radioactive minerals) will be more significant than those of others (e.g. bauxite) and that the types and amount of information required will vary according to the commodity being mined. ...

"During operations, mining securities in Australia's Northern Territory are typically around 100% of the total rehabilitation cost for the individual mine. ... Having reviewed the legal frameworks regulating the uranium mining industry in Malawi, we are of the view that Malawi risks sitting on a radioactive time bomb which will explode after all the uranium mining companies have packed and left the country. The time is now for the government to put in place such measures for the protection of the pristine rivers and lakes, fauna and soil but also for the benefit of its people. ***With the current state of things, the existing legal frameworks are a license for the uranium mining industry to loot and plunder."*** *(emphasis added)*

If Kayelekera is not rehabilitated, or only partially rehabilitated, it will not be the first time that the same outcome has been realised in Malawi. For example, the Eland Coal Mine in Malawi's Karonga district has been not been rehabilitated since mining ceased in 2015. The mining company – a subsidiary of a Norwegian-owned company – left behind several open pits, piles of coal, and deep holes filled with acidic water.[143] Malawi's ministries of health and mining acknowledged the shortcomings in meetings with Human Rights Watch in 2015 and 2016, and cited capacity problems as well as a lack of co-ordination among different government departments.[144]

Chapter Five
Issues and Controversies at the Kayelekera Mine

5.1 Introduction

The Kayelekera mine has been the source of controversy and concern for the past decade. Concerns include environmental impacts, allegations of intimidation, onsite accidents and leaks, labour relations, mine-site deaths, and controversial economic arrangements.

The mine and its owners Paladin have been the subject of numerous critical reports. Some of these reports focus on inadequate environmental standards.[145]

Other critical reports focus on the economic arrangements pertaining to the Kayelekera mine. A 2015 ActionAid report, 'An Extractive Affair: How one Australian mining company's tax dealings are costing the world's poorest country millions', argues that Malawi lost out on US$43 million revenue from the Kayelekera mine over the previous six years due to "harmful exemptions from royalty payments from the Malawi government, and tax planning using treaty shopping by Paladin."[146] Likewise, a 2013 report by United Nations' Special Rapporteur Olivier De Schutter discusses the revenue losses suffered by Malawi, estimated to be at least US$205 million.[147] The figures used by the Special Rapporteur were drawn from a detailed economic analysis by independent consultancy Curtis Research.[148] A 2016 report[149] by Don Hubert for the 'Publish What You Pay' civil society initiative raises concerns about tax-avoidance tactics; Paladin denies any such wrongdoing.[150]

Other critical reports address the interlinked problems of governance, legislative and regulatory problems and constraints in Malawi, corporate secrecy and self-interest, revenue losses for Malawi, etc. A detailed September 2016 Human Rights Watch report on mines in the Karonga region of Malawi, including the Kayelekera uranium mine, states: "Using Karonga district in northern Malawi as a case study, the report documents how Malawi currently lacks adequate legal standards and safeguards to ensure the necessary balance between developing the mining industry and protecting the rights of local communities. It examines how weak government oversight and lack of information leave local communities unprotected and uninformed about the risks and opportunities associated with mining."[151]

A 2013 report by the African Forum and Network on Debt and Development (AFRODAD) states:[152]

"Consistent with what many analysts and commentators have said, this research study unequivocally established that the benefits that Malawi, as a country, is gaining from the deal made with Kayelekera are tangential and dismal. Among the reasons why benefits are skewed more favourably towards the mining company are that the negotiations were done hastily under an atmosphere that was not transparent. Furthermore, the government officials involved were not experienced and were no match for the skilled negotiators for Paladin.

"Above and beyond this, the major problem that contributed to the disproportionate sharing of benefits are the country's archaic laws that fail to hold the Multinational Corporation (MNCs) more accountable to pay taxes and remit profits to Malawi. The laws that govern FDI in the extractive industry are weak and in disharmony."

A 2011 report by Malawian NGO Citizens for Justice states: [153]

"The old colonial trend where the developing world provides raw material resources for the developed world, with minimal local benefits, seems to be emerging. This trend can be a source of discontent, inequality and potential political tension in future, as is seen in South Africa today, where the high value mineral resources such as gold, diamonds and platinum are locally produced but processed in and benefitting Europe and the local businesses registered abroad. The recent call for nationalisation of mines by the African National Congress Youth League is therefore not an isolated or surprising development, given South Africa's history of entrenched social and racial inequalities. Malawi could be informed and learn from this experience to avoid the same pitfalls by coming up with sustainable models for mining business ownership."

5.2 Environmental Impacts

A November 2006 report by Assoc. Prof. Gavin Mudd, and Howard Smith, Senior Project Officer with the Northern Land Council in the Northern Territory, raised serious concerns about the Kayelekera Environmental Impact Assessment (KEIA) report.[154] The authors stated:

"The review is a detailed analysis and critique of the currently proposed Kayelekera Uranium Project by Paladin, and identifies numerous technical issues in the project and flaws in the current KEIA. For example, there is:

- *a lack of adequate, high quality environmental and radiological baseline data*
- *a lack of sufficient technical engineering design detail for critical project components*
- *a lack of references and discussion of models for numerous critical design issues*
- *missing key baseline radiological data, especially pre-mining radon flux*
- *completely inadequate figures and maps to present and visualise the proposed project*
- *a lack of appropriate strategic, long-term tailings management plan*
- *poorly argued project alternatives and inappropriate dismissal of viable project options*
- *inadequate characterisation and discussion of potential acid mine drainage issues*
- *a completely minimal and inappropriate rehabilitation plan"*

Environmental impacts at Kayelekera include those routinely associated with mining, such as land clearing. Others impacts relate to the radiological risks associated with uranium-bearing ores. These include the long-term management of radioactive tailings – according to the Environmental Impact Assessment commissioned by Paladin, uranium mining was expected to 13 million tonnes of tailings and 9.1 million cubic metres of waste rocks.[155]

Tailings management has been troublesome around the world[156] and it has been challenging at Kayelekera. Paladin's Environmental Impact Assessment noted the potential for groundwater contamination from tailings.[157] Other tailings-related concerns are the proximity of Sere River (which feeds into Lake Malawi), seismic risks and the impacts (e.g. erosion) of frequent high rainfall events.[158]

Similarly, the uncontrolled discharge of liquid effluents is also a contentious issue at Kayelekera. Uranium and sulfates at concentrations higher than before production have been recorded within the Champhanji stream, which flows into the Sere River.[159]

Paladin claims that discharged liquids meet criteria specified by the Malawi government and comply with World Health Organisation guidelines for uranium concentrations in drinking water. The company's position however has been tarnished and complicated by its persistent refusal to release relevant environmental monitoring data.[160]

When asked about environmental testing results at Kayelekera – in particular, routine effluent releases into the Sere River – Paladin's then Malawi Manager Greg Walker said in 2015 that the company tests discharged water every four hours and submits reports to the government.[161] Walker said: "We don't [publicly] disclose our monitoring results regarding water testing because there might always be outliers that can be misinterpreted by the general public." He added that Paladin would not be opposed to the government releasing the results – which begs the question, why doesn't Paladin simply release the results itself?

In a 2015 report that is generally sympathetic towards Paladin's Kayelekera mine, Kendyl Salcito and Mark Wielga from the NomoGaia NGO argue:[162]

"The government of Malawi makes occasional conclusory statements that its environmental data does not show any water levels which exceed international standards. This is not sufficient to meet human rights standards for adequate public participation on issues of public health, nor does it foster a sense of personal security among a public that has legitimate fears about environmental risk. The company has failed to respect human rights by taking measurements meant to protect human health and then concealing that information from the people whose health is implicated – the rightsholders themselves. While there was no sign of panic among the people in the area, there is a discomfort with not knowing. The reasonable question persists: If the environmental data is good, why doesn't the company make it public?"

Greenhouse emissions from Kayelekera have also generated controversy, and once again Paladin's lack of transparency has complicated the debate. In November 2010, after the Climate Advocacy Fund argued that Paladin had acted against the provisions of the Corporations Act, Paladin rejected listing a proposed resolution at its AGM.[163] According to the Climate Advocacy Fund's carbon footprint database Truscost, Paladin was estimated as the third-most carbon intensive ASX200 (Australian Stock Exchange) mining company, with emissions estimated at more than 2,500 tonnes of carbon dioxide per $1 million of revenue.[164]

Paladin's attitude to its environmental responsibilities sometimes verges on the flippant. Neville Huxham, the country director for Paladin Africa, said in 2009: "We are serious about the integrity of the environment. We're taking the uranium out of the ground, we're exporting it to be used for productive purposes, so we should be getting a medal for cleaning up the environment."[165]

5.3 Workforce Issues

Throughout Kayelekera's production period, civil society groups documented various issues pertaining to grievances by employees due to inadequate safety practices.[166] There have been a number of strikes at Kayelekera due to worker concerns about OH&S standards and other issues including pay.[167] In March 2009, for example, around 200 workers went on strike following a fatal fire and explosion, discussed below. Malawian police fired tear-gas at the striking workers, and the incident led Paladin management to temporarily shut down the mine and evacuate its senior managers to Lilongwe, the capital of Malawi.[168]

Another strike took place on May 11, 2012, halting production at the mine. Pay and working conditions were at issue. On May 16, Paladin announced than an in-principle agreement was achieved for a return to work by the striking employees.[169]

The International Consortium of Investigatory Journalists reported in 2015: "In the regional Ministry of Labour office close to Paladin's operations, a faded, hand-written ledger records more than 40 entries between 2010 and 2013 from employees with grievances against Paladin Africa and its subcontractors relating to alleged unfair dismissal, underpayment or nonpayment of salaries or retirement benefits. Most were marked as resolved either through payment or court referral. A manila folder nearby, marked "Paladin," contains meeting minutes, records of contractor employee strikes and sit-ins and a request from the Ministry to borrow Paladin's car tires."[170]

Australia's mining industry, while not fatality free, has a much better record in relation to mining injuries and fatalities than African countries including Malawi.[171] Serena Lilywhite, mining advocacy coordinator at Oxfam Australia in 2015, said that "in Australia we have the protection of trade unions and robust laws to prevent the risk of fatalities, violence and conflict ..."[172] The situation is starkly different in Africa. The International Consortium of Investigatory Journalists found in its 2015 investigation that from 2004 to 2015, more than 380 people died in mining accidents or in off-site skirmishes connected to Australian publicly-traded mining companies in 13 countries in Africa.[173] Worker compensation is another concern – the International Labor Organisation (ILO) has reported that in relation to workplace compensation in regions of Africa, delays in payments due to a lack of adequate record keeping are a frequent occurrence.[174]

Reported deaths at Kayelekera include the following:

- 2009, April 5: An explosion at Kayelekera killed two contract workers and permanently disabled a third.[175] The explosion was caused when MEK fumes in a tank mingled with welding and grinding four metres away. Paladin denied negligence on its part. The accident prompted 200 contract workers to strike over pay and working conditions.[176]
- August – October 2009: Two more deaths at Kayelekera. Paladin said that an employee had died at the mine as a result of a mini-bus rollover on October 7.[177] Paladin said 19 people including the driver were injured, with 15 admitted to hospital. Paladin advised on August 25 that a construction contractor had died at the mine, also as a result of a motor vehicle incident.[178]
- 2011, June: A Tanzanian national truck driver died during an accident at the Kayelekera mine.[179] According to eyewitnesses working on June 18, the truck caught fire with the impact but was extinguished with water from the water tank which it hit.[180]
- 2013, July 30: Khwima Phiri, a Malawian employee, died as a result of injuries sustained after being struck in the chest by a light vehicle wheel he was inflating at the time.[181,182]

5.4 Economic Arrangements and Revenue Losses

Kayelekera was a major source of employment in the Karonga district and in addition there were significant indirect economic benefits for the region. According to Paladin, 819 people were employed at the mine before the 2014 decision to put it into care-and maintenance.[183] Of course, the jobs proved to be short-lived. Under care-and-maintenance, employment has been reduced almost five-fold (176 people were employed at the mine in 2016).[184]

According to a 2013 report by the African Forum and Network on Debt and Development (AFRODAD), Malawi's inadequate regulatory laws have enabled the disproportionate sharing of profits.[185] The report summarised aspects of the development agreement between Paladin and the Government of Malawi that resulted in revenue losses to Malawi:[186]

- Corporate tax rate reduced from 30% to an effective 27.5%.
- 10% resource rent reduced to zero.
- Reduced royalty rate from 5% to 1.5% (years 1 to 3) and 3% (thereafter).
- Removal of 17% import VAT or import duty during the stability period.
- Immediate 100% capital write off for tax purposes, the capitalisation (debt:equity) ratio of 4:1 for the project.
- Stability period of 10 years where there will be no increase to tax and royalty regime and commitment period of 10 years where there will be no increase to tax and royalty regime and commitment to provide the benefit of any tax and royalty decrease during the period.

Speaking at the launch of the 2013 AFRODAD report[187], Malawi's Second Deputy Speaker of Parliament Juliana Mphande said she was "appalled to note that incentives offered to Paladin have severe implications to Government revenue and require attention of parliament".[188] She outlined the areas requiring parliamentary investigation and debate: transparency and accountability, or lack of it; capacity of negotiating teams; tax evasion and avoidance; disclosure of information on revenue payments; acts, policy and lack of monitoring; and local share ownership.[189] In the same year, the Opposition People's Transformation Party (PETRA) appealed to government authorities to renegotiate what it called the "stinking development agreement" between Malawi and Paladin regarding the Kayelekera mine.[190]

Responding to critical commentary on the various concessions it enjoys in Malawi, in particular the AFRODAD report, Paladin stated that "returns to the Government of Malawi have been limited" but argues that the "incentives are in line with other African countries, as are the taxes incurred", that Malawi "is doing no more than following common practice in providing an exemption of indirect taxes to attract investment in its resources sector", that the royalty regime for Kayelekera is consistent with the "benchmark" in African countries and "is in line with royalty rates in Africa", and that "standard practice in many African countries allows for the deferment or reduction in royalties in difficult times".[191]

However Paladin's statements merely confirm that, as the AFRODAD report states, there is a "race to the bottom" among African countries resulting in the loss of large amounts of revenue.[192] The ability to extract concessions from the governments of African countries does not necessarily mean that such corporate behaviour is legitimate or that it should be allowed to continue.

According to a 2015 report by ActionAid, Malawi lost an accumulated total of US$43 million from the Kayelekera mining project due to various royalties and tax reductions in the mining agreement between the Malawian government and Paladin Africa.[193]

The revenue losses are greater according to a 2013 report by United Nations' Special Rapporteur on the right to food Olivier De Schutter:[194]

"Malawi offers a great range of tax incentives to domestic and foreign companies. Mining companies are exempt from customs duty, excise duty, VAT on mining machinery, plant and equipment. They can also sign special deals on the rate of royalty owed to the government.

Companies operating in Export Processing Zones pay no corporate tax, no withholding tax on dividends, no VAT and no duty on capital equipment, machinery and raw materials. For instance, revenue losses from special incentives given to Australian mining company Paladin Energy, which manages the Kayelekera uranium mine, are estimated to amount to at least US$205 million (MWK 67 billion), and could be up to US$281 million (MWK 92 billion) over the 13 year lifespan of the mine. This amounts to at least US$ 15.8 million (MWK 6.5 billion) or up to US$21.65 million (MWK 8.9 billion) a year."

Why was the UN's Special Rapporteur on the right to food commenting on mining tax arrangements? The two sets of issues are connected as the report noted: "The Special Rapporteur is convinced that, unless combined with a comprehensive enhancement and optimization of tax revenue in Malawi, current macroeconomic reforms may not have substantive positive impacts on the realization of the right to food."[195]

The figures used by the Special Rapporteur were drawn from a 2013 report by independent consultancy Curtis Research.[196] The Curtis Research report states:

"This report focuses on the largest mining project in the country: the Kayelekera uranium mine in northern Malawi, managed by Australian company, Paladin. Greater tax revenues are critical for helping to eradicate poverty in the country. But this is likely to happen only if companies are required to pay more equitable taxes and royalties than hitherto, if mining taxes are standardised in conformity with international best practice and not open to Government discretion and if the sector is managed transparently. Yet none of these factors is currently in place in Malawi. ...

"One recent estimate is that tax incentives in the mining sector have cost Malawi a minimum of MK 86.4 billion ([US]$217 million at current exchange rates) in the five years 2008-12, meaning an average of $43.4 million a year. Yet this calculation has been made on just two companies, meaning that actual losses from mining will be much higher. This revenue loss – which amounts to an average of MK 17.28 billion a year – is over 8 times larger than the revenues received by the Government from mining (according to the 2010 figure of MK 2 billion). Thus Malawians are in effect paying for the privilege of mining companies to operate in their country. The MK 17.28 billion lost annual revenues could pay for over 60 per cent of the costs of the Ministry of Health in 2012/13 (K27.6 billion) or the entire budget (of MK 13.8 billion) for Public Universities.

"The government reduced Paladin's corporate income tax rate, abolished its obligation to pay Resource Rent Tax, reduced its royalty rate to an initial 1.5 per cent (compared to national rate of 5 per cent), gave it other tax concessions and set these in stone for 'at least' 10 years. In return for these concessions, the Government acquired a 15 per cent stake in the project. The agreement means that Paladin is paying very little in tax. Internal figures from Paladin obtained by the authors indicate that Paladin itself paid taxes of just MK 444 million ($1.6 million) in FY 2012, based on exports worth $127 million. This excludes payroll taxes paid by employees of the company not the company itself, which if added bring the tax total to MK 1.55 billion ($5.75 million) in FY 2012. Yet in Paladin's 2012 Annual Report, the company claims that it paid $9.6 million to the Government in 'a variety of Government taxes'. It is unclear how the company arrived at this higher figure in its public report.

"Our analysis is also that Paladin paid even less than the 1.5 per cent royalty rate for its first three years of operation, as specified in the 2007 agreement. Figures show royalty payments of only $2.58 million based on export sales of $295.5 million – a rate of just 0.87 per cent. ...

"This study estimates that revenue losses to Malawi from the tax regime given to Paladin for its Kayelekera mine are around $205 million, and could be as high as $281 million, over the 13 years of the project. This amounts to a mean average of $15.8 million a year (MK 6.5 billion) but which could be up to $21.65 million a year (MK 8.9 billion). The lost revenue from Paladin's mine could pay for critical services in Malawi. The MK 6.5 billion a year could pay for District Councils to more than double their procurement of drugs or more than double the allocation in the 2012/13 budget for recruitment of 16,000 Teachers for Primary, Secondary and Special Needs education."

A 2016 report by Dr. Don Hubert for the 'Publish What You Pay' civil society initiative states: "An analysis of Paladin's uranium mine in Malawi revealed $134 million in management fees over five years, which amounted to one-fifth of overall revenue for a mine suffering from depressed uranium prices. Perhaps not surprisingly, the fees were paid to a subsidiary in the Netherlands, allowing the company to also avoid the withholding tax."[197] Hubert states that research on illicit financial flows in Africa has concluded that the main source of government revenue loss is neither smuggling nor corruption but rather company tax avoidance. He further states that the Double Taxation Agreement between Malawi and the Netherlands was renegotiated and the new agreement, concluded in April 2015, includes specific anti-abuse provisions.

Paladin asserts that it "does not use tax havens to avoid payment of taxes."[198]

A 2013 *Mining in Malawi* article by Rachel Etter-Phoya lists a range of economic and social impacts resulting from Paladin's Kayelekera mine:[199]

"Community impact (mainly anecdotal evidence): increase in price of goods and services, rise in crime, prostitution and STDs, loss of biodiversity; construction of water plant; rehabilitation of primary school, airport, hospitals; construction of multipurpose hall near school and a footbridge; increase in number of banks in Karonga. Communities expected Paladin to take on services the government should provide."

5.5 Intimidation

There has been a history of people interested in or concerned about the Kayelekera mine being intimidated by various actors.

In 2007, two Malawian NGO members allege that they were ordered to go to the Karonga Police Station by the Chief of Police and threatened with arrest for taking an Australian photojournalist sponsored by the two Australian unions (MUA and CFMEU) to photograph and interview community members at the Kayelekera mine. One of the NGO representatives said that at the police station, the Chief of Police said that Paladin had complained although none of those involved were trespassing or breaking the law in any other way. "[I]t's unfortunate that Paladin is harassing us by using the Malawian police to promote its own agenda and protect its own interests at the expense of Malawians", he said.[200]

In December 2012, Paladin threatened 75-year old Australian pensioner Noel Wauchope with legal action for posting on her *antinuclear.net* website an article critical about Paladin's operations in Malawi. The threat backfired when it was publicised in the widely-read Fairfax press in Australia. Fairfax business columnist Michael West wrote: "The price of Noel Wauchope's concern for the people of Karonga was a long and intimidating letter of demand from Ashurst on behalf of the uranium company Paladin ... "[201]

In October 2016, the Malawi Immigration department in Karonga barred 26 Tanzanian students from the Moravian University of Theology from visiting the Kayelekera mine. The students planned to investigate the social and economic impacts of the mine.[202]

On December 20, 2016, eight Tanzanians were arrested while travelling to participate in a fact-finding mission of the Kayelekera mine.[203] They are from the area where the Mkuju River uranium mine is planned in Tanzania. They were accused of trespassing, spying and working as foreign agents. They were denied bail and held in sub-standard conditions; their legal access was impeded and their legal team harassed with death threats and the mysterious disappearance of their laptops; their legal defence team was prevented from fully cross-questioning witnesses; and the trial was postponed on six occasions, each time disrupting the defence team that travelled from Lilongwe and Dar-es-Salaam. In April 2017, after almost five months in detention, the eight people were convicted of Criminal Trespassing and carrying out a reconnaissance operation without a permit, and given suspended four-month sentences.

Chapter Six:
Conclusions and Recommendations

6.1 Rehabilitation of the Kayelekera Mine

The responsibility for the failure to set aside adequate funds for the rehabilitation of the Kayelekera mine rests primarily with Paladin.

In 2006, then Paladin CEO John Borshoff told ABC television that Australia and Canada have become "overly sophisticated" with their thinking about environmental and social issues associated with the mining industry.[204] Hence the interest in Africa where, among other corporate advantages, Paladin wasn't required to set aside sufficient funds to rehabilitate Kayelekera.

The Malawian government is also at fault for failing to require Paladin to set aside sufficient funds for comprehensive rehabilitation.

The indifference of the federal Australian government and the former Barnett WA state government also warrant comment.

The official line from Australia's Department of Foreign Affairs and Trade is that "mining offers African countries an unparalleled opportunity to stimulate growth and reduce poverty. If well managed, the extractives sector can drive innovation, generate revenue to fund critical social services and upgrade productive physical infrastructure, and directly and indirectly create jobs."[205]

The reality at Kayelekera does not match the Department's view of mining in Africa.

In 2014, then WA Premier Colin Barnett told a major mining conference in South Africa that Australian mining companies have "brought both expertise and ethical standards. It is a matter of pride for many companies that the standards applied in Australia are also applied in Africa."[206]

Again, the reality at Kayelekera does not match the former Premier's view of mining in Africa. Moreover, it is demonstrably false that standards applied in Australia are also applied in Africa; Kayelekera provides sufficient evidence to refute such claims. Proposals that Australian mining companies be required to meet Australian standards when operating abroad have been opposed and rejected by governments and industry in Australia.

Not even Colin Barnett would argue that Paladin is a source of pride for Australia. Likewise, Foreign Minister Julie Bishop surely didn't have Paladin's open-cut mine in mind when she told the 'Africa Down Under' mining conference in Perth in September 2017 that many Australian mining projects in Africa are outposts of good governance and that the, "…Australian Government encourages the people of Africa to see us as an open-cut mine for lessons-learned, for skills, for innovation and, I would like to think, inspiration."[207]

As things stand, if Paladin Energy enters into insolvency and fails to rehabilitate Kayelekera, either rehabilitation will be coordinated and funded by the Malawian government (with a small fraction of the cost coming from Paladin's bond) or the mine-site will not be rehabilitated at all. Another troubling scenario is that mining resumes at Kayelekera (presumably in the 2020s) but the problem of inadequate provision of funding for rehabilitation remains.

Resolution of the problem requires coordinated action. Hence the primary recommendation of this report: that the Australian and Western Australian governments and Paladin Energy should liaise with the Malawian government and Malawian civil society to ensure that a proper rehabilitation of Kayelekera is undertaken when the decision is made to close the mine.

6.2 Broader Reform

A number of reports provide recommendations that could make mining in Malawi (or Africa more broadly) more economically equitable, socially just and environmentally sustainable.[208] The recommendations of the 2016 Human Rights Watch report on mining and human rights in Malawi are reproduced here as they cover many of the issues that need to be addressed by various stakeholders:[209]

"To the Government of Malawi

- *Amend the draft Mines and Minerals Bill to include provisions that ensure robust environmental health monitoring at all stages of the mining process. In particular, amend the bill to require that impact assessments and regular inspections detail the potential impacts that exploration, active mining, and abandoned mines may have on affected communities and their rights; steps the government and companies will take to continually inform and communicate with affected communities; and ways in which adverse rights impacts will be mitigated or avoided. Include a provision to require that impacts on marginalized populations such as women and children are specifically monitored and addressed.*
- *Amend the draft Mines and Minerals Bill to ensure it has provisions that guarantee access to information. In particular, replace any provisions that limit access to mining-related information and ensure that communities receive information on all adverse environmental and social impacts. Include provisions to ensure that environmental impact assessments, environmental monitoring reports, and resettlement plans are easily available and accessible to the public.*

- *Revise the draft Access to Information Bill to ensure that minimum requirements for access to information follow international best practices and are in line with the model law by the African Union.*
- *Develop, through broad consultation, a policy for corporate social responsibility in the extractive industry that meets the international human rights standards laid out in the "Protect, Respect, and Remedy" framework. Make a strong human rights due diligence procedure a legal requirement for all companies extracting minerals in Malawi and monitor company compliance.*
- *Ensure coordination between different ministries and national, regional and district government bodies involved in mining governance and oversight. Provide written information to government officials about the different responsibilities with regard to mining, making clear who bears each responsibility. Hold regular coordination meetings across ministries and government levels to ensure that information is exchanged and disseminated to community members. Consider creating positions for district mining officers who can communicate and coordinate at the local level.*
- *Participate in partnerships and informational exchanges with other governments and institutions with relevant experience in ensuring human rights safeguards in managing natural resource booms, including institutions able to provide independent monitoring.*
- *To the Ministry of Natural Resources, Energy and Mining*
- *Ensure that impact assessments and regular inspections contain relevant details, including: the potential impacts that exploration, active mining, and abandoned mines may have on communities and their rights; steps the government and companies will take to continually inform and communicate with affected communities; and ways in which adverse impacts will be mitigated or avoided.*
- *Ensure impacts on marginalized populations, such as women and children, are monitored and addressed. Such monitoring should cover the cumulative impacts on the environment and livelihoods, including impacts resulting from extractive industries, social changes, and climate change.*
- *Regularly communicate environmental information to affected communities and detail the potential impacts that exploration, active mining and abandoned mines may have on affected communities and their rights; steps the government and companies will take to continually inform and communicate with affected communities; and ways in which adverse impacts will be mitigated or avoided.*
- *Ensure that outcomes of environmental assessments, periodic environmental monitoring reports, resettlement action plans, and updates on implementation are easily and readily accessible and include short summaries in non-technical language. Summaries and full reports should be translated into local languages, available on the internet, posted in public buildings, including at sub-county headquarters and local schools in directly affected communities. Government authorities should not only make the information accessible upon request, but also proactively disseminate information that is relevant to the protection of rights of affected communities.*
- *Require companies that prepare environmental impact assessments, environmental monitoring reports, and resettlement plans to make them easily available and accessible to the public, including to women and other marginalized groups.*
- *Amend the draft Communications Strategy for Malawi's Mineral Sector to ensure that mining communities receive regular and updated information about the results of environmental monitoring.*

- *Promptly fill all vacancies for inspectors at the Ministry of Mining and at the district level including the vacant district environmental officer position in Karonga district.*
- *Increase the number and capacity of trained staff to analyze environmental impact assessments (including resettlement action plans), monitor compliance reports, and form inspection teams to verify that companies adhere fully to their commitments. Empower and instruct ministry staff to carry out more thorough and proactive monitoring and oversight of existing mining projects, including by providing the staff and other resources necessary to fulfill this role effectively.*
- *Approve proposed extractive industries projects only after duly assessing human rights and environmental risks, particularly in areas such as land and labor rights.*
- *Identify measures to avoid or mitigate risks of adverse impacts.*
- *Implement mechanisms that enable continual analysis of developing human rights and environmental risks and that ensure adequate supervision.*
- *To the Ministry of Lands, Housing and Urban Development*
- *Provide a process for fair compensation and remedy negative human rights impacts of relocation in mining communities including the payment of compensation for losses that have already occurred. Pay special attention to impacts on women and ensure they are appropriately compensated for their losses.*
- *Develop a national resettlement policy in line with international human rights standards. In the meantime, international best practice should guide displacement, resettlement, and compensation and be used as a basis for educating communities in negotiating resettlement arrangements.*
- *Ensure regular, broad, and meaningful public consultation and participation at all stages of resettlement, including through meaningful consultation in the design, implementation, and post-move phases of resettlement.*
- *Promote women's equal rights and access to land in rural areas including joint registration of customary land. Ensure that women are appointed to land committees in accordance with the Customary Land Bill and support their meaningful participation on an equal basis with men.*

"To the Ministry of Health
- *Actively monitor health indicators and disease patterns in mining communities and ensure that results are easily available and accessible to the public.*
- *Develop a national strategy to improve health in mining communities and increase access to healthcare in mining areas, taking into account the increased health risks for marginalized populations. Include in the strategy measures to support family caregivers, especially women.*
- *Ensure that commitments by extractive industries to build additional health facilities in mining communities are implemented.*
- *Devise a comprehensive public health strategy to tackle the health problems of residents in mining communities.*
- *To the Ministry of Information*
- *Increase mining communities' knowledge of the impacts of mining on community health and global climate change.*

"To the Ministry of Agriculture, Irrigation and Water Development
- *Map out the boundaries of watersheds potentially impacted by mining operations and actively monitor water throughout watersheds under the influence of mining to identify potential contamination, including monitoring waste water discharges, ground and surface water*

sources, and drinking water in mining communities on an ongoing basis. Ensure that results are easily available and accessible to the public.

- *Actively monitor boreholes, shallow wells, and rivers in mining communities on an ongoing basis and ensure that results are easily available and accessible to the public.*
- *Monitor fisheries within mining-affected watersheds for unsafe levels of heavy metal contamination.*

"To the Ministry of Justice

- *Work with the Ministry of Information to ensure that the draft Access to Information Bill follows international best practices and are in line with the model law by the African Union.*

"To the Ministry of Gender

- *Work with Ministry of Mining to ensure that impacts of mining on marginalized populations such as women and children are specifically monitored and addressed.*
- *Work with Ministry of Mining to implement dedicated measures that facilitate access to information about mining for groups that may face specific impacts or that are marginalized, such as women, children, older people, people with disabilities, and minorities.*
- *Work with Ministry of Mining to ensure regular, broad, and meaningful consultation with, and participation of, women in affected communities with respect to large extractive industries projects.*

"To the Mzuzu Regional Office of Mines and to the Karonga District Commissioner

- *Ensure that environmental monitoring reports are easily available and accessible to the public in northern region, including by providing short summaries in non-technical language; translating the summaries and the full reports into local languages; posting them online; providing copies in public buildings such as local schools; and holding information sessions in directly affected communities. Implement dedicated measures that facilitate access for groups that may face specific impacts or that are marginalized, such as women, children, older people with disabilities, and minorities.*

"To the Water Department in Karonga

- *Ensure that water testing reports are easily available and accessible to the public in Karonga district, including by providing short summaries in non-technical language; translating the summaries and the full reports into local languages; posting them on the internet; providing copies in public buildings such as local schools; and holding information sessions in directly affected communities. Implement dedicated measures that facilitate access for groups that may face specific impacts or that are marginalized, such as women, children, older people, people with disabilities, and minorities.*

"To the Parliament of Malawi

- *Work with the government to ensure that the draft Mines and Minerals Bill provides robust environmental and health monitoring in the extractive industries.*
- *Work with the government to ensure that the draft Access to Information Bill includes minimum requirements for access to information that follow international best practices and are in line with the model law by the African Union.*

"To Companies Extracting Minerals in Malawi

- *Improve public access to information and be more transparent by strengthening communication with local and national civil society and with affected community members. Make information available to both literate and non-literate community members. Outcomes of environmental assessments, periodic environmental monitoring reports, resettlement action plans, and updates on implementation should be easily accessible and include short summaries in non-technical language. Summaries and full reports should be translated into local languages, made available online, and posted in public buildings, including at sub-county headquarters and local schools in directly affected communities of Malawi.*
- *Establish a thorough due diligence process, including regular monitoring, to ensure that the rights of affected communities. Monitors should be independent and the results of monitoring should be published. If there are reports of human rights violations companies should specifically investigate these reports. The due diligence, process should also include procedures to address adverse human rights impacts.*
- *Provide a process for fair compensation and remedy negative human rights impacts of relocation in mining communities, including the payment of compensation for losses that have already occurred. Pay special attention to impacts on women, and ensure they are appropriately compensated for their losses.*
- *Establish effective grievance mechanisms – in line with good international practice—so that individuals affected by mining projects can complain directly to companies in addition to the government.*

"To the Governments of Australia, Cyprus, and Other Home Governments of Mining Firms Operating in Malawi

- *Take steps to regulate and monitor the human rights conduct of domestic companies operating abroad, such as requiring companies to carry out and publicly report on human rights due diligence activity.*

"To UNESCO

- *Work with the government of Malawi to ensure robust environmental and health monitoring in the extractive industries, including at the UNESCO world heritage site at Lake Malawi.*
- *Work with extractive industries operating within or in the vicinity of the world heritage site to minimize the impacts of its operations on the world heritage site.*

"To the Donor Community

- *Work with the government of Malawi to ensure robust environmental and health monitoring in the extractive industries. Support the government to ensure that environmental impact assessments, environmental monitoring reports, and resettlement plans are easily available and accessible to the public."*

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[1] Charlotte McLeod, 25 May 2018, 'Paladin Energy Pulls Plug on Langer Heinrich Uranium Mine', <https://investingnews.com/daily/resource-investing/energy-investing/uranium-investing/paladin-energy-pulls-plug-langer-heinrich/>

[2] Paladin Energy, 25 May 2018, 'LHM Confirmation of Care & Maintenance', <www.asx.com.au/asxpdf/20180525/pdf/43v8z12d7zf1r0.pdf>

[3] Cameco, <www.cameco.com/invest/markets/uranium-price> Accessed 5 November 2017

[4] Tess Ingram, 7 July 2017, 'Paladin Energy: from market hero to administration', Australian Financial Review, <www.afr.com/business/mining/uranium/paladin-energy-from-market-hero-to-administration-20170706-gx6a84>

[5] Paul Garvey, 4 July 2017, 'French debt forces uranium miner Paladin into administration', The Australian, <www.theaustralian.com.au/business/companies/french-debt-forces-uranium-miner-paladin-into-administration/news-story/b366be6e20bbaa2cf8b0439b64ef6168>
[6] Tess Ingram, 7 July 2017, 'Paladin Energy: from market hero to administration', Australian Financial Review, <www.afr.com/business/mining/uranium/paladin-energy-from-market-hero-to-administration-20170706-gx6a84>
[7] Charlotte McLeod, 25 May 2018, 'Paladin Energy Pulls Plug on Langer Heinrich Uranium Mine', <https://investingnews.com/daily/resource-investing/energy-investing/uranium-investing/paladin-energy-pulls-plug-langer-heinrich/>
[8] Nick Sas, 18 July 2013, 'Uranium industry in crisis: Borshoff', The West Australian, <http://web.archive.org/web/20130725060831/http://au.news.yahoo.com/thewest/a/-/breaking/18043640/uranium-industry-in-crisis-borshoff>
[9] Steve Kidd, 6 May 2014, 'The future of uranium – higher prices to come?', Nuclear Engineering International, <www.neimagazine.com/opinion/opinionthe-future-of-uranium-higher-prices-to-come-4259437/>
[10] Bejamin Leveau, 29 April 2016, 'Uranium industry focuses on costs as supply glut continues', Platts, <http://blogs.platts.com/2016/04/29/uranium-cost-supply-glut/>
[11] Jim Green, 9 Aug 2017, 'Nuclear power's death spiral and the demise of uranium miners', Nuclear Monitor #848, <www.wiseinternational.org/nuclear-monitor/848/nuclear-powers-death-spiral-and-demise-uranium-miners>
See also Nuclear Monitor #857, 14 Feb 2018, '2017 in review: Uranium is best left in the ground', <https://wiseinternational.org/nuclear-monitor/857/2017-review-uranium-best-left-ground>
[12] Geert De Clercq, 3 Oct 2016, 'Desperate uranium miners switch to survival mode despite nuclear rebound', Reuters, <www.reuters.com/article/us-uranium-nuclearpower-idUSKCN1230EF>
[13] Cameco, <www.cameco.com/invest/markets/uranium-price>
[14] Charlotte McLeod, 25 May 2018, 'Paladin Energy Pulls Plug on Langer Heinrich Uranium Mine', <https://investingnews.com/daily/resource-investing/energy-investing/uranium-investing/paladin-energy-pulls-plug-langer-heinrich/>
[15] World Nuclear Association, 26 April 2018, 'Namibian mine prepares for care and maintenance decision', <www.world-nuclear-news.org/UF-Namibian-mine-prepares-for-care-and-maintenance-decision-2604187.html>
[16] Mariaan Webb, 28 Feb 2018, 'Paladin posts loss as Langer Heinrich sales volumes fall, costs increase', <www.miningweekly.com/article/paladin-posts-loss-as-langer-heinrich-sales-volumes-fall-costs-increase-2018-02-28>
[17] Matthew Woods for and on behalf of Paladin Energy, 2 Jan 2018, 'Directions Hearing and DOCA Update', <www.asx.com.au/asxpdf/20180102/pdf/43ql352cxkfyhg.pdf>
[18] Sarah-Jane Tasker, 8 Jan 2015, 'Paladin Energy alerts ASX to spill at Malawi uranium mine', <www.theaustralian.com.au/business/mining-energy/paladin-energy-alerts-asx-to-spill-at-malawi-uranium-mine/story-e6frg9df-1227177696428>
[19] Cameco, <www.cameco.com/invest/markets/uranium-price>
[20] Cameco, <www.cameco.com/invest/markets/uranium-price>
[21] Cameco, <www.cameco.com/invest/markets/uranium-price>
[22] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.
[23] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.
[24] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine',

<www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.

[25] Paladin, 14 Feb 2018, 'Reviewed Pro Forma Balance Sheet', <www.asx.com.au/asxpdf/20180214/pdf/43rkwl3tsn1vgc.pdf>

[26] William Nyirenda / Citizens for Justice, 2 April 2014, 'Paladin lies to Malawi Government on its Kayelekera uranium mine', <www.ejolt.org/2014/04/paladin-lies-to-malawi-government-on-its-kayelekera-uranium-mine/> Accessed 11 October 2017

[27] Paladin Energy, Annual Report 2017, p.132, <www.paladinenergy.com.au/sites/default/files/financial_report_file/paladin-annual-report-printed-2017.pdf>

[28] ERA, 'Annual Report 2017', <www.energyres.com.au/uploads/docs/2017_ERA_AnnualReport_ebook.pdf>

[29] ERA, 5 June 2018, 'ERA releases Closure Plan for Ranger mine', <www.energyres.com.au/media/era-releases-closure-plan-for-ranger-mine/>

[30] United Nations, 22 July 2013, 'End of mission statement by the Special Rapporteur on the right to food, Malawi 12 to 22 July 2013', <http://web.archive.org/web/20130829181627/www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13567&LangID=E> Accessed 1 November 2017

[31] The US$10 million estimate is noted in: Rachel Etter-Phoya and Grain Malunga / OpenOil, Oct 2016, 'Kayelekera Model & Narrative Report', <http://openoil.net/kayelekera-model-narrative-report/> Accessed 4 Oct 2017

The US$12 million estimate is noted in: Paladin Energy, 'Statement of Suspension of Production at Kayelekera Mine, Malawi', February 2014, <www.asx.com.au/asxpdf/20140207/pdf/42mlr46syb3741.pdf>, accessed 4 October 2017

[32] United Nations, 22 July 2013, 'End of mission statement by the Special Rapporteur on the right to food, Malawi 12 to 22 July 2013', <http://web.archive.org/web/20130829181627/www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13567&LangID=E>

[33] Nuclear Monitor #847, 21 July 2017, 'Paladin Energy's social and environmental record in Africa', <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>

[34] WISE-Uranium, 'Paladin Energy Ltd Hall of Infamy', <www.wise-uranium.org/ucpalhi.html>

[35] Dr Gavin M. Mudd and Howard D. Smith, November 2006, 'Comments on the Proposed Kayelekera Uranium Project Environmental Impact Assessment Report', <http://users.monash.edu.au/~gmudd/files/Comments-Kayelekera-EIS-Draft-v3.pdf>

[36] Eric Bagshaw, 10 September 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html>

[37] Eric Bagshaw, 10 September 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html>

[38] <www.icij.org/project/fatal-extraction>

[39] <www.icij.org/investigations/fatal-extraction/key-findings-11/>

[40] Adam Hartman, 31 Oct 2018, 'Langer Heinrich worker dies', <www.namibian.com.na/index.php?id=115939&page=archive-read>

[41] <www.icij.org/investigations/fatal-extraction/key-findings-11/>

[42] France Diplomatie 2008, 'Mineral resources and development in Africa', <www.diplomatie.gouv.fr/IMG/pdf/mineral_resources_DOS_2010.pdf>, p.32

[43] Dasnois N 2012, 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance', South African Institute of International Affairs, p.5, <www.saiia.org.za/occasional-papers/26-uranium-mining-in-africa-a-continent-at-the-centre-of-a-global-nuclear-renaissance/file>, accessed 20 Oct. 2017

[44] Dasnois N 2012, 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance', South African Institute of International Affairs, p.5, <www.saiia.org.za/occasional-papers/26-uranium-mining-in-africa-a-continent-at-the-centre-of-a-global-nuclear-renaissance/file>, accessed 20 Oct. 2017

[45] Dasnois N 2012, 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance', South African Institute of International Affairs, p.5, <www.saiia.org.za/occasional-papers/26-uranium-mining-in-africa-a-continent-at-the-centre-of-a-global-nuclear-renaissance/file>, accessed 20 Oct. 2017

[46] Dasnois N 2012, 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance', South African Institute of International Affairs, p.5, <www.saiia.org.za/occasional-papers/26-uranium-mining-in-africa-a-continent-at-the-centre-of-a-global-nuclear-renaissance/file>, accessed 20 Oct. 2017

[47] Dasnois N 2012, 'Uranium Mining in Africa: A Continent at the Centre of a Global Nuclear Renaissance', South African Institute of International Affairs, <www.saiia.org.za/occasional-papers/26-uranium-mining-in-africa-a-continent-at-the-centre-of-a-global-nuclear-renaissance/file>, accessed 20 Oct. 2017

[48] OCED Nuclear Energy Agency & IAEA 2016, 'Uranium 2016: Resources, Production and Demand', Organisation for Economic Cooperation and Development, <www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf, pg.60-61

[49] OCED Nuclear Energy Agency & IAEA 2016, 'Uranium 2016: Resources, Production and Demand', Organisation for Economic Cooperation and Development, <www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf, p.61

[50] OECD Nuclear Energy Agency & IAEA 2016, 'Uranium 2016: Resources, Production and Demand', Organisation for Economic Cooperation and Development, <www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf, pg.60-61

[51] World Nuclear Association, July 2017, 'World Uranium Mining Production', <www.world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/world-uranium-mining-production.aspx>

[52] OECD Nuclear Energy Agency & IAEA 2016, 'Uranium 2016: Resources, Production and Demand', Organisation for Economic Cooperation and Development, <www.oecd-nea.org/ndd/pubs/2016/7301-uranium-2016.pdf, pg.64-65

[53] 'Uranium mining in Niger', Nuclear Monitor #765, 1 Aug 2013, <www.wiseinternational.org/nuclear-monitor/765/uranium-mining-niger-jim-green>

[54] Bagshaw E. 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html>, accessed 17 September 2017

[55] Bagshaw E. 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html>, accessed 17 September 2017

[56] See Joint Standing Committee on Foreign Affairs, Defence and Trade report: Inquiry into Australia's Relationship with the Countries of Africa, <www.aph.gov.au/Parliamentary_Business/Committees/Joint/Completed_Inquiries/jfadt/africa%2009/report>

[57] Niepraschk A 2014, 'Australian Uranium Mining in Africa – Our Responsibility?', Mining Monitor, <www.mpi.org.au/wp-content/uploads/2014/12/Australian-Uranium-Mining-in-Africa-%E2%80%93-Our-Responsibility.pdf>

[58] Bagshaw E. 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html>, accessed 17 September 2017

[59] Australian Parliament Hansard, 6 May 2010, Joint Standing Committee on Foreign Affairs, Defence and Trade, Australia's Relationship with the Countries of Africa, <http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommjnt%2F12858%2F0004%22> Accessed 30 September 2017

[60] Cécile Schilis-Gallego, Martha M. Hamilton, Will Fitzgibbon, 8 July 2015, 'Australian Mining Companies Digging A Deadly Footprint In Africa', International Consortium of Investigatory Journalists, <www.icij.org/investigations/fatal-extraction/> Accessed 12 Oct. 2017

[61] Will Fitzgibbon, 11 July 2015, 'Australian miners linked to hundreds of deaths, injuries in Africa', Sydney Morning Herald, <www.smh.com.au/business/mining-and-resources/australian-miners-linked-to-hundreds-of-deaths-injuries-in-africa-20150708-gi7rzk.html> Accessed 28 September 2017
[62] ESCR-Net (International Network for Economic, Social & Cultural Rights), n.d., 'The Mining Indaba and Extractive Sector Cooption of the Development Agenda', <www.escr-net.org/node/365082>
[63] Paladin Energy 2017, 'Background - Paladin Energy', <www.paladinenergy.com.au/kayelekera-malawi-background>, accessed 1 October 2017.
[64] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[65] Paladin (Africa) Limited, July 2015, 'Project Update Kayelekera Mine (on care & maintenance)', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>
[66] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[67] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[68] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[69] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[70] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[71] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[72] Dr Gavin M. Mudd and Howard D. Smith, November 2006, 'Comments on the Proposed Kayelekera Uranium Project Environmental Impact Assessment Report', <http://users.monash.edu.au/~gmudd/files/Comments-Kayelekera-EIS-Draft-v3.pdf> Accessed 14 September 2017
See also Mineral Policy Institute 2015, 'Paladin's Curse: Kayelekera and the Extended Mining Saga in Malawi', <www.mpi.org.au/2015/03/paladins-curse-kayelekera-and-the-extended-mining-saga-in-malawi> Accessed 14 September 2017
[73] Dr Gavin M. Mudd and Howard D. Smith, November 2006, 'Comments on the Proposed Kayelekera Uranium Project Environmental Impact Assessment Report', <http://users.monash.edu.au/~gmudd/files/Comments-Kayelekera-EIS-Draft-v3.pdf> Accessed 14 September 2017
[74] Mines and Communities 2007, 'Joint Press Statement - Civil Society Organisations Concerns on the Statement by Mr. John Borshoff' <www.minesandcommunities.org/article.php?a=1429>
[75] 'Paladin lawsuit (re Malawi)', <https://business-humanrights.org/en/paladin-lawsuit-re-malawi>
[76] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[77] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017

[78] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[79] Paladin Energy 2015, 'Kayelekera Project Brochure July 2015', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>, accessed 1 October 2017
[80] Etter-Phoya R 2017, 'Kayelekera: Reserves for 6 more years', <https://mininginmalawi.com/2017/05/23/kayelekera-reserves-for-6-more-years/>, accessed 4 October 2017
[81] Paladin Energy 2017, 'About Paladin', <www.paladinenergy.com.au/sustainability-about-paladin>, accessed 4 October 2017
[82] Etter-Phoya R 2017, 'Kayelekera: Reserves for 6 more years', <https://mininginmalawi.com/2017/05/23/kayelekera-reserves-for-6-more-years/>, accessed 4 October 2017
[83] The US$10 million estimate is noted in: Rachel Etter-Phoya and Grain Malunga / OpenOil, Oct 2016, 'Kayelekera Model & Narrative Report', <http://openoil.net/kayelekera-model-narrative-report/> Accessed 4 Oct 2017
The US$12 million estimate is noted in: Paladin Energy, 'Statement of Suspension of Production at Kayelekera Mine, Malawi', February 2014, <www.asx.com.au/asxpdf/20140207/pdf/42mlr46syb3741.pdf>, accessed 4 October 2017
[84] Paladin Energy, 7 Feb 2014, 'Suspension of Production at Kayelekera Mine, Malawi', <www.marketwired.com/press-release/paladin-energy-ltd-suspension-of-production-at-kayelekera-mine-malawi-tsx-pdn-1876805.htm>
[85] World Nuclear News 2017, 'Paladin enters administration' <www.world-nuclear-news.org/UF-Paladin-Energy-enters-administration-0307177.html>, accessed 4 October 2017
[86] World Nuclear News 2017, 'CNNC decides against Langer Heinrich buyout', <http://world-nuclear-news.org/C-CNNC-decides-against-Langer-Heinrich-buyout-2108171.html>, accessed 4 October 2017
[87] Ingram T 2017, 'Paladin Energy appoints administrators after $US277m payment demand', Australian Financial Review, <www.afr.com/business/mining/uranium/paladin-energy-appoints-administrators-after-us277m-payment-demand-20170703-gx3vjv>
[88] World Nuclear News 2017, 'Paladin enters administration', <www.world-nuclear-news.org/UF-Paladin-Energy-enters-administration-0307177.html>, accessed 4 October 2017
[89] World Nuclear News 2017, 'Paladin enters administration', <www.world-nuclear-news.org/UF-Paladin-Energy-enters-administration-0307177.html>, accessed 4 October 2017
[90] Charlotte McLeod, 25 May 2018, 'Paladin Energy Pulls Plug on Langer Heinrich Uranium Mine', <https://investingnews.com/daily/resource-investing/energy-investing/uranium-investing/paladin-energy-pulls-plug-langer-heinrich/>
[91] Paladin Energy, 25 May 2018, 'LHM Confirmation of Care & Maintenance', <www.asx.com.au/asxpdf/20180525/pdf/43v8z12d7zf1r0.pdf>
[92] Mhlongo et. al 2016, 'A review of problems and solutions of abandoned mines in South Africa', International Journal of Mining, Reclamation and Environment, Vol. 30, No. 4, p.284 <http://dx.doi.org/10.1080/17480930.2015.1044046>
[93] Oliveira D. 2016, 'Mine closure, rehabilitation getting more attention from regulators', Mining Weekly, <www.miningweekly.com/article/mining-industry-resistant-to-mine-closure-and-rehabilitation-2016-05-27/rep_id:3650>, accessed 20 September 2017
[94] See 31 October 2014 'Government Notice from the Department of Environmental Affairs – National Environmental Management Act', 1998, <http://extwprlegs1.fao.org/docs/pdf/saf140414.pdf>
[95] Malunga G & Phalira W 2015, 'Assessment of Mining Policy implementation in Malawi: Study Report', Centre for Environmental Policy and Advocacy', (draft report), p.19, <https://mininginmalawi.files.wordpress.com/2015/09/2015-08-implementation-of-mining-policy-in-malawi.pdf>

[96] Chamber of Mines of South Africa / Coaltech 2007, 'Guidelines for the Rehabilitation of Mined Land', p.8, <https://commondatastorage.googleapis.com/comsa/Guidelines%20for%20the%20rehabilitation%20of%20mined%20land%20Nov07.pdf>
[97] Paladin (Africa) Limited, July 2015, 'Project Update Kayelekera Mine (on care & maintenance)', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>
[98] Jim Green, 21 July 2017, 'Paladin Energy goes bust', Nuclear Monitor, <www.wiseinternational.org/nuclear-monitor/847/paladin-energy-goes-bust>
[99] Esmarie Swanepoel, 15 Dec 2016, 'Paladin holds a fire sale', <www.miningweekly.com/article/paladin-holds-a-fire-sale-2016-12-15>
[100] Esmarie Swanepoel, 15 Dec 2016, 'Paladin holds a fire sale', <www.miningweekly.com/article/paladin-holds-a-fire-sale-2016-12-15>
[101] World Nuclear News, 3 April 2017, <http://us1.campaign-archive1.com/?u=140c559a3b34d23ff7c6b48b9&id=4499e9a24a&e=ae5ca458a0>
[102] Paladin Energy, July 2015,'Proect Update: Mt Isa Projects', <www.paladinenergy.com.au/sites/default/files/15.07_Mount_Isa_Projects_July_2015_1.pdf>
[103] Henry Lazenby, 14 May 2015, 'Paladin Energy narrows nine-month net loss', <www.miningweekly.com/article/paladin-energy-narrows-nine-month-net-loss-2015-05-14>
[104] Nick Evans, 11 Aug 2015, 'Borshoff cedes control of debt-laden Paladin', West Australian.
[105] World Nuclear News, 25 July 2017, 'Langer Heinrich company value seen at $583 million', <www.world-nuclear-news.org/C-Langer-Heinrich-value-seen-at-538-million-2507178.html>
[106] Mike King, 19 Jan 2015, 'Paladin Energy Ltd revenues soar 79% but shares sink', <www.fool.com.au/2015/01/19/paladin-energy-ltd-revenues-soar-79-but-shares-sink/>
[107] Geert De Clercq, 3 Oct 2016, 'Desperate uranium miners switch to survival mode despite nuclear rebound', <www.reuters.com/article/us-uranium-nuclearpower-idUSKCN1230EF>
[108] Sarah-Jane Tasker, 8 January 2015, 'Paladin Energy alerts ASX to spill at Malawi uranium mine', The Australian, <www.theaustralian.com.au/business/mining-energy/paladin-energy-alerts-asx-to-spill-at-malawi-uranium-mine/story-e6frg9df-1227177696428>
[109] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.
[110] Cameco, <www.cameco.com/invest/markets/uranium-price>
[111] Cameco, <www.cameco.com/invest/markets/uranium-price>
[112] Cameco, <www.cameco.com/invest/markets/uranium-price>
[113] Sarah-Jane Tasker, 8 January 2015, 'Paladin Energy alerts ASX to spill at Malawi uranium mine', The Australian, <www.theaustralian.com.au/business/mining-energy/paladin-energy-alerts-asx-to-spill-at-malawi-uranium-mine/story-e6frg9df-1227177696428>
[114] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.
[115] Nick Sas, 18 July 2013, 'Uranium industry in crisis: Borshoff', The West Australian, <http://web.archive.org/web/20130725060831/http://au.news.yahoo.com/thewest/a/-/breaking/18043640/uranium-industry-in-crisis-borshoff>
[116] Steve Kidd, 6 May 2014, 'The future of uranium – higher prices to come?', Nuclear Engineering International, <www.neimagazine.com/opinion/opinionthe-future-of-uranium-higher-prices-to-come-4259437/>
[117] Thomas Meade and Julian Steyn, 2 Oct 2015, 'Treading water in the uranium market', <www.neimagazine.com/features/featuretreading-water-in-the-uranium-market-4684314/>
[118] Bejamin Leveau, 29 April 2016, 'Uranium industry focuses on costs as supply glut continues', <http://blogs.platts.com/2016/04/29/uranium-cost-supply-glut/>

[119] Spencer Jakab, 18 Sept. 2016, 'Uranium Investments Grow Radioactive', Wall Street Journal, <www.wsj.com/articles/why-uranium-investments-will-remain-radioactive-1474225882>
[120] Jim Green, 9 Aug 2017, 'Nuclear power's death spiral and the demise of uranium miners', Nuclear Monitor #848, <www.wiseinternational.org/nuclear-monitor/848/nuclear-powers-death-spiral-and-demise-uranium-miners>
[121] Collins Mtika and Thom Chiumia, 18 August 2017, 'Paladin crashes: Malawi uranium miner files for insolvency in Australia', Nyasa Times, <www.nyasatimes.com/paladin-crashes-malawi-uranium-miner-files-insolvency-australia/>
[122] Paladin (Africa) Limited, July 2015, 'Project Update Kayelekera Mine (on care & maintenance)', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>
[123] Paladin (Africa) Limited, July 2015, 'Project Update Kayelekera Mine (on care & maintenance)', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>
[124] Paladin (Africa) Limited, July 2015, 'Project Update Kayelekera Mine (on care & maintenance)', <www.paladinenergy.com.au/sites/default/files/15.07_Kayelekera_Project_Brochure_July_2015_1.pdf>
[125] Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.
[126] Paladin Energy, 19 August 2013, 'Response to the AFRICAN FORUM AND NETWORK ON DEBT AND DEVELOPMENT (AFRODAD) Report (the Report), titled: THE REVENUE COSTS AND BENEFITS OF FOREIGN DIRECT INVESTMENT IN THE EXTRACTIVE INDUSTRY IN MALAWI THE CASE OF KAYELEKERA URANIUM MINE', <http://web.archive.org/web/20150227073614/www.paladinenergy.com.au/getfile.aspx?Type=document&ID=11523&ObjectType=3&ObjectID=2840>
[127] Paladin Energy, 11 April 2014, 'Response to the Environmental Justice Organisations, Liabilities & Trade Article Titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <https://business-humanrights.org/en/malawi-ngo-warns-of-radiation-pollution-after-paladin-energys-mine-closure-includes-company-response>
[128] Malawi Nation, 11 Feb 2008, <www.uranium-network.org/Mali%20Konferenz/start_htm_files/start_htm_files/History-of-U-Mining-in-Malawi-WISE.pdf>
[129] Nyasa Times, 3 April 2013, 'Paladin has MK3.9bn environmental bond for Malawi uranium mine – Walker', <www.nyasatimes.com/paladin-has-mk3-9bn-environmental-bond-for-malawi-uranium-mine-walker/> Accessed 9 September 2017
See also Rachel Etter-Phoya, 5 April 2013, 'Paladin Honouring Environmental Performance Bond Commitment Stipulated in Mining Development Agreement', <https://mininginmalawi.com/2013/04/05/paladin-honouring-environmental-performance-bond-commitment-stipulated-in-mining-development-agreement/>
[130] Nyasa Times, 3 April 2013, 'Paladin has MK3.9bn environmental bond for Malawi uranium mine – Walker', <www.nyasatimes.com/paladin-has-mk3-9bn-environmental-bond-for-malawi-uranium-mine-walker/>
[131] Nyasa Times, 3 April 2013, 'Paladin has MK3.9bn environmental bond for Malawi uranium mine – Walker', <www.nyasatimes.com/paladin-has-mk3-9bn-environmental-bond-for-malawi-uranium-mine-walker/>
[132] Development Agreement Between the Government of the Republic of Malawi Paladin (Africa) Limited and Paladin Energy Minerals NL on the Kayelekera Uranium Project, 2007, pp.45-46, <http://resourcecontracts.org/contract/ocds-591adf-4270474629/view#/text> accessed 20 October 2017
[133] Development Agreement Between the Government of the Republic of Malawi Paladin (Africa) Limited and Paladin Energy Minerals NL on the Kayelekera Uranium Project, 2007, pp.45-46, <http://resourcecontracts.org/contract/ocds-591adf-4270474629/view#/text> accessed 20 October 2017
[134] Development Agreement Between the Government of the Republic of Malawi Paladin (Africa) Limited and Paladin Energy Minerals NL on the Kayelekera Uranium Project, 2007, pp.45-46, <http://resourcecontracts.org/contract/ocds-591adf-4270474629/view#/text> accessed 20 October 2017

[135] Paladin, 14 Feb 2018, 'Reviewed Pro Forma Balance Sheet', <www.asx.com.au/asxpdf/20180214/pdf/43rkwl3tsn1vgc.pdf>

[136] William Nyirenda / Citizens for Justice, 2 April 2014, 'Paladin lies to Malawi Government on its Kayelekera uranium mine', <www.ejolt.org/2014/04/paladin-lies-to-malawi-government-on-its-kayelekera-uranium-mine/> Accessed 11 October 2017

[137] Paladin Energy, Annual Report 2017, p.132, <www.paladinenergy.com.au/sites/default/files/financial_report_file/paladin-annual-report-printed-2017.pdf>

[138] ERA, 'Annual Report 2017', <www.energyres.com.au/uploads/docs/2017_ERA_AnnualReport_ebook.pdf>

[139] ERA, 5 June 2018, 'ERA releases Closure Plan for Ranger mine', <www.energyres.com.au/media/era-releases-closure-plan-for-ranger-mine/>

[140] Citizens For Justice (CFJ), 2011, 'Uranium Mining In Malawi – Perspectives On National Legislation: The License To Loot And Plunder', <http://cfjmalawi.org/wp-content/uploads/2015/08/Uranium-Mining-in-Malawi-Perspectives-on-National-Legislation-The-license-to-loot-and-plunder.pdf>

[141] Citizens For Justice (CFJ), 2011, 'Uranium Mining In Malawi – Perspectives On National Legislation: The License To Loot And Plunder', <http://cfjmalawi.org/wp-content/uploads/2015/08/Uranium-Mining-in-Malawi-Perspectives-on-National-Legislation-The-license-to-loot-and-plunder.pdf>

[142] Citizens For Justice (CFJ), 2011, 'Uranium Mining In Malawi – Perspectives On National Legislation: The License To Loot And Plunder', <http://cfjmalawi.org/wp-content/uploads/2015/08/Uranium-Mining-in-Malawi-Perspectives-on-National-Legislation-The-license-to-loot-and-plunder.pdf>

[143] Human Rights Watch 2016, 'They Destroyed Everything': Mining and Human Rights in Malawi', Human Rights Watch, <www.hrw.org/sites/default/files/report_pdf/malawi0916_web.pdf> accessed 20 October 2017
See also Katharina Rall, 19 Feb 2017, 'New Law Brings Malawi's Mining Communities Hope', <www.hrw.org/news/2017/02/19/new-law-brings-malawis-mining-communities-hope> accessed 20 October 2017

[144] Charlotte Mathews, 9 Oct 2016, 'Malawi: Down in the dumps', <www.businesslive.co.za/fm/fm-fox/2016-10-09-malawi-down-in-the-dumps> accessed 20 October 2017

[145] See for example Dr Gavin M. Mudd and Howard D. Smith, November 2006, 'Comments on the Proposed Kayelekera Uranium Project Environmental Impact Assessment Report', <http://users.monash.edu.au/~gmudd/files/Comments-Kayelekera-EIS-Draft-v3.pdf> Accessed 14 September 2017

[146] ActionAid, 17 June 2015, 'An Extractive Affair: How one Australian mining company's tax dealings are costing the world's poorest country millions', <www.actionaid.org/sites/files/actionaid/malawi_tax_report_updated_table_16_june.pdf>

[147] United Nations, 22 July 2013, 'End of mission statement by the Special Rapporteur on the right to food, Malawi 12 to 22 July 2013', <http://web.archive.org/web/20130829181627/www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13567&LangID=E> Accessed 1 November 2017

[148] Mark Curtis, 2013, 'Malawi's Mining Opportunity: Increasing Revenues, Improving Legislation', Norwegian Church Aid / Catholic Commission for Justice and Peace, <http://curtisresearch.org/wp-content/uploads/Malawi-Mining-Revenue-Study-Report.pdf>

[149] Don Hubert, 2016, 'Many Ways to Lose a Billion: How Governments Fail to Secure a Fair Share of Natural Resource Wealth' Canada: Publish What You Pay, <www.res4dev.com/many-ways-to-lose-a-billion/>, <www.res4dev.com/wp-content/uploads/2017/07/R4D-Report-ManyWaysToLoseABillion_LRes1.pdf> Accessed 18 October 2017

[150] See Paladin's responses to NGO reports: <www.paladinenergy.com.au/ngo-reports-and-paladins-responses>

[151] Human Rights Watch, 27 Sept 2016, '"They Destroyed Everything": Mining and Human Rights in Malawi', <www.hrw.org/report/2016/09/27/they-destroyed-everything/mining-and-human-rights-malawi> or <www.hrw.org/sites/default/files/accessible_document/malawi0916_etr_web_1.pdf>

[152] African Forum and Network on Debt and Development, 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine', <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html>

[153] Citizens for Justice (Malawi), 2011, 'Malawi Uranium: Scramble for the Yellow Cake in Malawi'.

[154] Dr Gavin M. Mudd and Howard D. Smith, November 2006, 'Comments on the Proposed Kayelekera Uranium Project Environmental Impact Assessment Report', <http://users.monash.edu.au/~gmudd/files/Comments-Kayelekera-EIS-Draft-v3.pdf> Accessed 14 September 2017

[155] Etter-Phoya R 2015, 'Independent Monitoring at Paladin's Kayelekera Uranium Mine in Malawi', <https://mininginmalawi.com/2015/02/24/independent-monitoring-at-paladins-kayelekera-uranium-mine-in-malawi/>

[156] WISE-Uranium, <http://wise-uranium.org/indexm.html> and <http://wise-uranium.org/indexu.html#UMMTM>

[157] Etter-Phoya R 2015, 'Independent Monitoring at Paladin's Kayelekera Uranium Mine in Malawi', <https://mininginmalawi.com/2015/02/24/independent-monitoring-at-paladins-kayelekera-uranium-mine-in-malawi/>

[158] Etter-Phoya R 2015, 'Independent Monitoring at Paladin's Kayelekera Uranium Mine in Malawi', <https://mininginmalawi.com/2015/02/24/independent-monitoring-at-paladins-kayelekera-uranium-mine-in-malawi/>

[159] Etter-Phoya R 2015, 'Independent Monitoring at Paladin's Kayelekera Uranium Mine in Malawi', <https://mininginmalawi.com/2015/02/24/independent-monitoring-at-paladins-kayelekera-uranium-mine-in-malawi/>

[160] BBC News 2017, 'Fears of river poisoning in Malawi', <www.bbc.com/news/world-africa-38751257>, Accessed 7 October 2017.
See also: Collins Mtika, 26 January 2016, 'Paladin's uranium waste 'wars', Malawi villagers up in arms', <www.pambazuka.org/human-security/paladins-uranium-waste-'wars'-malawi-villagers-arms> Accessed 9 October 2017.

[161] Human Rights Watch, September 2016, '"They Destroyed Everything": Mining and Human Rights in Malawi, <www.hrw.org/report/2016/09/27/they-destroyed-everything/mining-and-human-rights-malawi>

[162] Kendyl Salcito and Mark Wielga / NomoGaia, 2015, 'Kayelekera HRIA Monitoring Summary', <http://nomogaia.org/wp-content/uploads/2015/10/KAYELEKERA-HRIA-MONITORING-SUMMARY-10-5-2015-Final.pdf> Accessed 1 November 2017.

[163] Green J., 2017, 'Paladin Energy's social and environmental record in Africa', Nuclear Monitor #847, <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, accessed 5 October 2017

[164] Green J 2017, 'Paladin Energy's social and environmental record in Africa', <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, accessed 5 October 2017

[165] Jessie Boylan, 22 August 2009, 'Malawi: Activists Look Askance at New Mine', <www.ipsnews.net/2009/08/malawi-activists-look-askance-at-new-mine/>

[166] WISE Uranium project 2017, Issues at Operating Uranium Mines and Mills - Africa, <www.wise-uranium.org/umopafr.html#MW>, accessed 10 October 2017

[167] WISE Uranium project 2017, Issues at Operating Uranium Mines and Mills - Africa, <www.wise-uranium.org/umopafr.html#MW>, accessed 8 October 2017

[168] Nyasa Times, 18 March 2009; The Nation, 19 March 2009.

[169] Nyasa Times, 11 May 2012; <www.wise-uranium.org/umopafr.html#MW>; <www.miningweekly.com/article/kayelekera-production-back-on-track-2012-05-16>

[170] Fitzgibbon W., M. Hamilton M. and C. Schilis- Gallego 2015, 'Australian Mining Companies Digging a Deadly Footprint in Africa', <www.icij.org/project/fatal-extraction/australian-mining-companies-digging-deadly-footprint-africa>. Accessed 9 October 2017

171 Fitzgibbon W, Hamilton M & Schilis- Gallego 2015, 'Australian Mining Companies Digging a Deadly Footprint in Africa', <www.icij.org/project/fatal-extraction/australian-mining-companies-digging-deadly-footprint-africa>, accessed 9 October 2017

172 Fitzgibbon W, Hamilton M & Schilis- Gallego 2015, 'Australian Mining Companies Digging a Deadly Footprint in Africa', <www.icij.org/project/fatal-extraction/australian-mining-companies-digging-deadly-footprint-africa>, accessed 9 October 2017

173 Cécile Schilis-Gallego, Martha M. Hamilton, Will Fitzgibbon, 8 July 2015, 'Australian Mining Companies Digging A Deadly Footprint In Africa', International Consortium of Investigatory Journalists, <www.icij.org/investigations/fatal-extraction/> Accessed 12 Oct. 2017

174 Fitzgibbon W., M. Hamilton M. and C. Schilis- Gallego 2015, 'Australian Mining Companies Digging a Deadly Footprint in Africa', <www.icij.org/project/fatal-extraction/australian-mining-companies-digging-deadly-footprint-africa>. Accessed 9 October 2017

175 Green J 2017, 'Paladin Energy's social and environmental record in Africa', <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, accessed 5 October 2017

176 Will Fitzgibbon, Martha M. Hamilton and Cécile Schilis-Gallego / International Consortium of Investigative Journalists, 10 July 2015, 'Australian Mining Companies Digging a Deadly Footprint in Africa', <www.icij.org/project/fatal-extraction/australian-mining-companies-digging-deadly-footprint-africa>

177 Green J 2017, 'Paladin Energy's social and environmental record in Africa', <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, accessed 5 October 2017

178 Sydney Morning Herald, 8 Oct. 2009; <www.wise-uranium.org/umopafr.html#MW>; <www.wise-uranium.org/umopafr.html#KAYELEKERA>

179 Green J 2017, 'Paladin Energy's social and environmental record in Africa', <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, accessed 5 October 2017

180 WISE Uranium Project 2017, 'Issues at Operating Uranium Mines and Mills - Africa', <www.wise-uranium.org/umopafr.html#MW>, accessed 5 October 2017

181 Swanepoel E 2013, 'Fatality at Paladin Mine', <www.miningweekly.com/article/fatality-at-paladin-mine-2013-07-31/rep_id:3650>, accessed 6 October 2017

182 Swanepoel E 2013, 'Fatality at Paladin Mine', <www.miningweekly.com/article/fatality-at-paladin-mine-2013-07-31/rep_id:3650>, accessed 6 October 2017

183 Paladin Energy, 11 April 2014, 'Response to the ENVIRONMENTAL JUSTICE ORGANISATIONS, LIABILITIES AND TRADE Article, titled: Paladin lies to Malawi Government on its Kayelekera Uranium Mine', <www.paladinenergy.com.au/sites/default/files/14.04.16_Response_to_Environmental_Justice_Organisations%2C_Liabilities_and_Trade_Article.pdf> Accessed 28 September 2017.

184 Paladin Energy, 'Appendix 4E - Financial Report Financial year ended 30 June 2016', <www.paladinenergy.com.au/sites/default/files/financial_report_file/160630-paladin-2016-annual-report.pdf>

185 African Forum and Network on Debt and Development, 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine', <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html> Accessed 6 October 2017.

186 African Forum and Network on Debt and Development, 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine', <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html> Accessed 6 October 2017.

187 African Forum and Network on Debt and Development, 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine', <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html> Accessed 6 October 2017.

[188] Rachel Etter-Phoya, 24 May 2013, 'The Case of Paladin's Kayelekera Uranium Mine: Report Released on the Revenue Costs and Benefits to Malawi', <https://mininginmalawi.com/2013/05/24/the-case-of-paladins-kayelekera-uranium-mine-report-released-on-the-revenue-costs-and-benefits-to-malawi/> Accessed 2 September 2017
[189] Rachel Etter-Phoya, 24 May 2013, 'The Case of Paladin's Kayelekera Uranium Mine: Report Released on the Revenue Costs and Benefits to Malawi', <https://mininginmalawi.com/2013/05/24/the-case-of-paladins-kayelekera-uranium-mine-report-released-on-the-revenue-costs-and-benefits-to-malawi/> Accessed 2 September 2017
[190] Nyasa Times, 5 March 2013.
[191] Paladin Energy, 19 August 2013, 'Response to the AFRICAN FORUM AND NETWORK ON DEBT AND DEVELOPMENT (AFRODAD) Report (the Report), titled: THE REVENUE COSTS AND BENEFITS OF FOREIGN DIRECT INVESTMENT IN THE EXTRACTIVE INDUSTRY IN MALAWI THE CASE OF KAYELEKERA URANIUM MINE', <http://web.archive.org/web/20150227073614/www.paladinenergy.com.au/getfile.aspx?Type=document&ID=11523&ObjectType=3&ObjectID=2840>
[192] African Forum and Network on Debt and Development, 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine', <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html>
[193] ActionAid 2015, 'An Extractive Affair: How one Australian mining company's tax dealings are costing the world's poorest country millions', <www.actionaid.org/sites/files/actionaid/malawi_tax_report_updated_table_16_june.pdf> , accessed 6 October 2017
[194] United Nations, 22 July 2013, 'End of mission statement by the Special Rapporteur on the right to food, Malawi 12 to 22 July 2013', <http://web.archive.org/web/20130829181627/www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13567&LangID=E> Accessed 1 November 2017
[195] United Nations, 22 July 2013, 'End of mission statement by the Special Rapporteur on the right to food, Malawi 12 to 22 July 2013', <http://web.archive.org/web/20130829181627/www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=13567&LangID=E> Accessed 1 November 2017
[196] Mark Curtis, 2013, 'Malawi's Mining Opportunity: Increasing Revenues, Improving Legislation', Norwegian Church Aid / Catholic Commission for Justice and Peace, <http://curtisresearch.org/wp-content/uploads/Malawi-Mining-Revenue-Study-Report.pdf>
[197] Don Hubert, 2016, 'Many Ways to Lose a Billion: How Governments Fail to Secure a Fair Share of Natural Resource Wealth' Canada: Publish What You Pay, <www.res4dev.com/many-ways-to-lose-a-billion/>, <www.res4dev.com/wp-content/uploads/2017/07/R4D-Report-ManyWaysToLoseABillion_LRes1.pdf> Accessed 18 October 2017
[198] Paladin Energy, 19 August 2013, 'Response to the AFRICAN FORUM AND NETWORK ON DEBT AND DEVELOPMENT (AFRODAD) Report (the Report), titled: THE REVENUE COSTS AND BENEFITS OF FOREIGN DIRECT INVESTMENT IN THE EXTRACTIVE INDUSTRY IN MALAWI THE CASE OF KAYELEKERA URANIUM MINE', <http://web.archive.org/web/20150227073614/www.paladinenergy.com.au/getfile.aspx?Type=document&ID=11523&ObjectType=3&ObjectID=2840>
[199] Rachel Etter-Phoya, 24 May 2013, 'The Case of Paladin's Kayelekera Uranium Mine: Report Released on the Revenue Costs and Benefits to Malawi', <https://mininginmalawi.com/2013/05/24/the-case-of-paladins-kayelekera-uranium-mine-report-released-on-the-revenue-costs-and-benefits-to-malawi/> Accessed 2 September 2017
[200] MUA News, 15 Jan 2007, 'Australian Company Uses Malawian Police Against Critics'.
[201] Noel Wauchope, n.d., 'Ashurst, Paladin, attack this website with legal threats. Reply from Ashurst', <http://antinuclear.net/2013/09/02/ashurst-paladin-attack-this-website-with-legal-threats/>
[202] Maravi Post, 12 October 2016.

[203] Green J., 2017, 'Paladin Energy's social and environmental record in Africa', Nuclear Monitor #847, <www.wiseinternational.org/nuclear-monitor/847/paladin-energys-social-and-environmental-record-africa>, Accessed 5 October 2017

[204] Australian Parliament Hansard, 6 May 2010, Joint Standing Committee on Foreign Affairs, Defence and Trade, Australia's Relationship with the Countries of Africa, <http://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22committees%2Fcommjnt%2F12858%2F0004%22> Accessed 30 September 2017

[205] Department of Foreign Affairs and Trade, n.d., 'Africa and the Middle East', <http://dfat.gov.au/geo/africa-middle-east/pages/africa-region-brief.aspx> Accessed 20 October 2017

[206] Colin Barnett, 5 February 2014, 'Australian Mining in Africa', <www.miningindaba.com/ehome/index.php?eventid=174097&&eventid=84507&tabid=186544> Accessed 1 September 2017

[207] Eric Bagshaw, 10 September 2017, 'The Australian companies mining $40 billion out of Africa', Sydney Morning Herald, <www.smh.com.au/federal-politics/political-news/the-australian-companies-mining-40-billion-out-of-africa-20170906-gyc6t0.html> Accessed 22 September 2017

[208] See for example:
African Forum and Network on Debt and Development (Afrodad), 2013, 'The Revenue Costs and Benefits of Foreign Direct Investment in the Extractive Industry in Malawi: The Case of Kayelekera Uranium Mine, Section 10.0 <www.afrodad.org/index.php/en/resource-centre/publications/category/22-economic-governance.html>
Don Hubert, 2016, 'Many Ways to Lose a Billion: How Governments Fail to Secure a Fair Share of Natural Resource Wealth' Canada: Publish What You Pay, Chapter 4, <www.res4dev.com/many-ways-to-lose-a-billion/>, <www.res4dev.com/wp-content/uploads/2017/07/R4D-Report-ManyWaysToLoseABillion_LRes1.pdf> Accessed 18 October 2017

[209] Human Rights Watch, September 2016, '"They Destroyed Everything": Mining and Human Rights in Malawi, <www.hrw.org/report/2016/09/27/they-destroyed-everything/mining-and-human-rights-malawi>