

ANNEX 1

COUNTRY PROFILES OF MAJOR MICA-PRODUCING COUNTRIES



Stichting Onderzoek Multinationale Ondernemingen
Centre for Research on Multinational Corporations



COLOPHON

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The Centre for Research on

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is an independent, not-for-profit

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working on social, ecological and

economic issues related to sustainable

development. Since 1973, the

organisation investigates multinational

corporations and the consequences

of their activities for people and

the environment around the world.

Terre des Hommes Netherlands

prevents child exploitation, removes

children from exploitative situations

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a safe environment. Terre des Hommes

works towards a world where all

children have a decent life and can

grow up to be independent adults.

A world in which children are no

longer exploited. Terre des Hommes

will continue its work until this

is accomplished.

ANNEX 1

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MARCH 2018



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1. INTRODUCTION TO THE COUNTRY PROFILES

This Annex is part of the study *Global mica mining and the impact on children's rights*.

The objective of this study is to map global mica production, and to identify direct or indirect links to child labour – or any other relevant children's rights violations – within the context of mica mining around the world.

To this end, SOMO has analysed the largest mica-producing countries worldwide, and investigated possible connections with violations of children's rights.

Twenty countries were selected for this analysis, in consultation with Terre des Hommes. The selection has a strong focus on non-western countries, since it was assumed that the possible impact of child rights violations is the highest in these countries. The inclusion of the top five western countries makes it possible to put production volumes and the characteristics of mica mining into a global context. The countries were identified in the United States Geological Survey's annual mica mining report as the world's top mica-producing countries, and were further analysed individually.

The individual country analyses cover the following aspects:

- What are the details of the mica mining? What are the production, export and import data for mica?
- Who are the key industry players?
- What are the human rights risks related to mica mining in the country?

- What are the possible impacts on children in this context (excluding the western countries)?
- Are there reported children's rights violations and/or reports of child labour (excluding the western countries)?
- Are there initiatives in this country to stop child labour (excluding the western countries)?
- What did the UN Committee on the Rights of the Child report on this country?

Each country profile ends with a brief analysis of the most important points revealed in the research, as well as an indication of red flags and outstanding questions. It should be noted that the available statistics on mica vary considerably per source, and that production, export and import volumes must therefore ultimately be considered as estimates. All of the available statistics have been included in the country profiles. For production volumes per country, information comes from Transparency Market Research (TMR), the United States Geological Survey (USGS), the British Geological Survey (BGS) and the national governments if available. For import and export information per country, data was used from TMR and the UN Commodity Trade Statistics Database (UN Comtrade, hereafter referred to simply as UN).

The collected information in the country profiles has served as the basis for the risk analyses in the mica-producing countries (see Chapter 9 of the report *Global mica mining and the impact on children's rights*).

SELECTION OF THE 20 MAJOR MICA-PRODUCING COUNTRIES	
Non-western countries (15)	Argentina, Brazil, China, India, Iran, Madagascar, Malaysia, Pakistan, Peru, Russia, South Africa, South Korea, Sri Lanka, Sudan and Taiwan.
Western countries (5)	Canada, Finland, France, Spain and the United States.

EXPORT, PRODUCTION AND IMPORT DATA SUMMARIZED FROM THE INDIVIDUAL COUNTRY PROFILES.

20 COUNTRIES RANKED ON EXPORT	MICA EXPORT 2015	MICA PRODUCTION 2015	MICA IMPORT 2015
China	151,586	151,000	112,019
India	135,919	12,491	851
Canada	20,483	22,000	1,296
Madagascar	16,664	9,400	0
France	13,891	20,700	2,149
USA	7,676	41,500	33,542
Finland	7,226	11,836	211
Malaysia	6,320	4,788	945
Brazil	4,401	12,000	2,356
Spain	3,557	4,000	197
South Africa	3,518	29	479
Sri Lanka	1,544	1,500	1,839
Pakistan	896	0	944
Korea	532	17,405	9,092
Taiwan	393	8,267	6,086
Russia	354	9,000	1,646
Peru	37	90	240
Argentina	17	7,500	333
Iran	3	5,600	0
Sudan	0	0	32

Sources: The export and import data is based on UN Comtrade and the production data on BGS sources. There are some deviations: The export figures for Iran and Taiwan are based on TMR sources. The production and export of Sudan stopped after 2013. BGS's estimates for China's mica production are based on exports and therefore more conservative than other often cited sources. India's production is based on government data; Peru's production is based on TMR data, Brazil's production is based on USGS as the BGS figure for Brazil is appears to be a mistake ; Russia's mica production, which is often cited, is 100,000 tonnes according to the USGS, however BGS notes a much more conservative figure as an estimation.

2. ARGENTINA

DETAILS OF MICA MINING

Mica in Argentina¹ is considered to be an industrial mineral. According to an Argentine government report, mica is in the first mining category, which means that the land where the mica is found belongs to the State and can only be mined with a legal concession.²

According to Encyclopedia.com, mica is found in the north-western parts of Argentina,³ specifically in the provinces of Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero and Tucuman. The Diggings website states that there are 52 mica mines in Argentina in the Catamarca, Jujury, La Rioja, Salta, San Juan and Tucuman regions.⁴ According to the USGS, mica is also mined in the Centro and Nuevo Cuyo regions.⁵ There

are reportedly mica deposits in the Payo Guaico Mine in the Catamarca region, but the reference is dated.⁶

According to both the BGS⁷ and USGS⁸, official mica production in Argentina remained fairly steady over the four-year period between 2012 and 2015. BGS has estimated the production for 2012, 2013, 2014 and 2015.⁹ No production statistics from the government could be located.

Although official reports of the actual tonnage of exports and imports were not found, an Argentine government report stated that raw mica (HS 2525100) fetched around US\$ 20,000 per year between 2005 and 2009 in total Argentine mica exports. Powered mica

(HS 2525200) fetched less, averaging US\$ 13,000 per year in annual exports over that same period.¹² Raw mica imports (HS 2525100) over that same period varied considerably: from US\$ 7457 in 2005, to US\$ 219,574 in 2007, and then down to US\$ 110,307 in 2009.¹³

The country exports relatively little mica given what it produces. Mica imports will either be cheaper than the mica produced locally, or be determined by the specific industries using the imported mica for production. According to the Observatory of Economic Complexity (OEC), in 2015 Argentina imported a third of its mica from Canada (33 per cent), with the remainder coming from Japan (16 per cent) the US (15 per cent) and Finland (14 per cent).¹⁴

THE KEY PLAYERS

According to mining consultants Rojas & Associates, there are at least 150 mining companies operating in Argentina, most of which are foreign-owned.¹⁵ According to the USGS, 40 per cent of the mining companies operating in Argentina in 2013 were from Canada.¹⁶ Somica Dem is the Catamarca provincial government's

exploration and mining company, established in 1980. Given that the word 'mica' is in the company's name, it could possibly mine mica.

No further information could be found concerning the specific players, including names of traders, processors or exporters.

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

Argentina is on the CIA's World Factbook list of countries with child labour, with a reported 7 per cent of children between the ages of 5 and 13 years working. This source is however dated (2003)¹⁷ and no update could be located.

Argentina also appears on the US Department of Labour (DOL) list of goods produced by children, although mica mining is not included in the list.¹⁸ The most recent list of UNICEF child labour statistics includes Argentina as a participating country.¹⁹ According to the Argentina Independent website, child labour has historically been found in the agricultural

MICA PRODUCTION IN ARGENTINA (METRIC TONNES)

ARGENTINA	TMR	USGS ¹⁰	BGS ¹¹	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	5,000	7,500	7,500	NA
2014	7,500	7,500	7,500	NA
2013	NA	9,000	7,500	NA
2012	NA	10,000	5,785	NA

MICA IMPORT/EXPORT IN ARGENTINA (METRIC TONNES)

ARGENTINA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	17	16	334	333
2014	19	19	439	439
2013	NA	27	NA	167
2012	NA	78	NA	173

1 The data used for the Argentine profile was collected in Amsterdam April 2017.

2 Informes de Cadesnas de Valor, (Mayo 2016). http://www.economia.gob.ar/peconomica/docs/SSPE_mineria_metalifera_rocas.pdf (20 April 2017).

3 <http://www.encyclopedia.com/places/latin-america-and-caribbean/south-american-political-geography/argentina#MINING>

4 <https://thediggings.com/commodities/mica/arg>

5 <https://minerals.usgs.gov/minerals/pubs/country/2007/myb3-2007-ar.pdf>

6 <https://thediggings.com/mines/usgs10004266#deposit-location-info>

7 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2006&dateTo=2015&country=79&agreeToTsAndCs=agreed>

8 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ar.pdf>

9 Email 2 June 2017 from Teresa Brown, Mineral Commodity Geologist of British Geological Survey.

10 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ar.pdf>

11 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2006&dateTo=2015&country=79&agreeToTsAndCs=agreed>

12 <http://www.argentinatradenet.gov.ar/sitio/estrategias/Informe%20Sectorial%20de%20Mineria.pdf>

13 <http://www.argentinatradenet.gov.ar/sitio/estrategias/Informe%20Sectorial%20de%20Mineria.pdf> (p 59)

14 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/arg/show/2525/2015/

15 <http://www.rojasyasociados.com/en/empresas-mineras-activas-en-argentina/>

16 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ar.pdf>

17 <https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2255.html#20>

18 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

19 <http://data.unicef.org/topic/child-protection/child-labour/>

sectors,²⁰ although the DOL site also lists garment production and brick building.²¹

STOP CHILD LABOUR INITIATIVES

According to the Argentina Independent website, there exist state-run initiatives including a national commission for the eradication of child labour called CONAETI, and public/private programs aimed at stopping child labour.²² For example, “the public-private partnership schemes of Jardines de Cosecha and Porvenir in the province of Salta are clear examples of where the ILO, along with NGOs, have set real change in place.”²³

UN COMMITTEE ON THE RIGHTS OF THE CHILD

Regarding the protection of and respect for children's rights in the business sector, the UN Committee on the Rights of the Child (hereinafter called the CRC) is concerned about the lack of clear guidelines and regulations for companies. The CRC therefore urges Argentina to develop these guidelines and regulations, and to advance in the area of social and environmental responsibility from a human rights perspective.

The CRC is concerned about the lack of effective coordination mechanisms for Argentina's child labour policy, as well as insufficient structures for enforcement. Many children in the country are subject to economic exploitation, particularly in rural areas, which is linked to schooling problems in these areas.²⁴

ANALYSIS

- According to the USGS, mica has one of the lowest levels (by volume) among the industrial minerals produced in Argentina. It is not a significant mineral for Argentina, and only one mica deposit, in the Payo Guaico Mine, could be verified (although the data is dated). According to the report, the deposit has “operated in the past as small-scale” production, but has since closed.
- Argentina imports much more mica than it produces or even exports, according to the master data sheet. This means that it is cheaper to buy mica than to mine it in Argentina. The OEC states that Argentina imported 33 per cent of its mica in 2015 from Canada, followed by Finland (14 per cent) and Japan (16 per cent).²⁵
- No government statistics could be found on the value of mica imports and exports, apart from dated data (2005-2009).
- There is child labour in Argentina, and this is confirmed by three official lists (the DOL, the CIA and UNICEF). However there is no indication that children are working in Argentinian mines.

3. BRAZIL

DETAILS OF MICA MINING

According to the USGS, Brazil's²⁶ main mining products are niobium, asbestos, vermiculite, iron ore, bauxite, tantalum, manganese, nickel and crude steel.²⁷ The same USGS report on Brazil does not even list mica as a Brazilian mineral product. This suggests that mica is officially not a significant or high-ranking mineral for the country,²⁸ despite the fact that Brazil is one of the highest-producing countries according to the BGS and a noted supplier of mica for some pigment-producing companies.²⁹ According to the website, The Diggings, there are 268 mica deposits in Brazil in the Ceará (1), Espírito Santo (17), Minas Gerais (221), Paraíba (1), Rio de Janeiro (9) and São Paulo (19) regions.³⁰ The US government was reportedly interested in exploiting the mica deposits in the Minas Gerais area in the 1940s for the war effort.³¹ A USGS report from 1959 noted that the Minas Gerais region had the most significant mica deposits in Brazil.³² A more recent Brazilian government document, from 2004, notes that mica is considered a “by-product” and rejected in many cases given its “whimsy prices”.³³

In a more recent government publication, it is estimated that around 4 million tonnes of muscovite mica reserves exist in the states of Tocantins, Minas Gerais, Paraíba, Rio Grande do Norte, and Ceará.³⁴ This same report notes the existence of predominately open-pit mines, semi-mechanised or manually mined, operated by sloping or sloping bench mining.³⁵ Other than this government report stating that the mines are open-pit, no further information could be found as to the legality of the mines, or whether some are artisanal or illegal. Muscovite mica is reportedly found in both the Rio Doce

and Jequitinhonha valleys in the state of Minas Gerais.³⁶ It is worth noting that mica production figures in Brazil vary quite dramatically between TMR, the USGS and the BGS. This discrepancy requires further investigation.

In 2015, Brazil exported more mica than it imported. Most of the mica imported in 2015 came from the USA (24 per cent), Germany (23 per cent) followed by China (19 per cent) and Japan (12 per cent) while in that same year it exported mica mostly to Germany (52 per cent), France (22 per cent) and the USA (18 per cent). The UN Comtrade database notes that Brazil exports almost exclusively sheet mica. For example, in 2016 Brazil reported overall mica volumes of 4,241 metric tonnes, and of that amount 4,139 metric tonnes were registered in the Comtrade data as sheet mica.³⁸

In 2016, according to UN Comtrade data, Brazil exported 28 per cent of its sheet mica to France, 26 per cent to Germany, 24 per cent to the USA, 19 per cent to China and 3 per cent to Uruguay. In 2015, 69 per cent was exported to Germany.

THE KEY PLAYERS

In a decade-old Brazilian government report on mica, the main companies active in mica production were identified as Seridó Mineração Ltda, Parelhas; Coamila; Altamica Comercio Ltda; Brazilminas Industria e Comercio Ltda; and Von Roll Isola SA.³⁹

According to a Brazilian government report, the company Von Roll do Brazil Ltda not only produces mica but is also one of the main buyers of the mineral, using it to manufacture mica paper for use as a thermoelectric insulator.⁴⁰

20 <http://www.argentinaindependent.com/currentaffairs/child-labour-argentina-saving-children-today-tomorrow/>

21 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

22 <http://www.argentinaindependent.com/currentaffairs/child-labour-argentina-saving-children-today-tomorrow/>

23 <http://www.argentinaindependent.com/currentaffairs/child-labour-argentina-saving-children-today-tomorrow/>

24 United Nations Human Rights Office of the High Commissioner (OHCHR), UN Treaty Body Database, http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fARG%2fCO%2f3-4&Lang=en

25 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/arg/show/2525/2015/

26 The data for Brazil was collected from Amsterdam in April 2017.

27 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-br.pdf>

28 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-br.pdf>

29 <https://www.somo.nl/beauty-and-a-beast/>

30 <https://thediggings.com/commodities/mica/bra>

31 <https://www.gia.edu/gia-news-research-cruzeiro-tourmaline-mine-expedition>

32 <https://pubs.usgs.gov/bul/0964c/report.pdf>

33 <http://www.mme.gov.br/documents/10584/177708/Produ%C3%A7%C3%A3o+e+Comercializa%C3%A7%C3%A3o+de+Mica/97580b15-0a87-4673-955d-49e38fdb227?version=1.0>

34 <http://www.dnpm.gov.br/dnpm/sumarios/mica-sumario-mineral-2014/view>

35 <http://www.dnpm.gov.br/dnpm/sumarios/mica-sumario-mineral-2014/view>

36 <http://www.minerals.net/mineral/muscovite.aspx>

38 <https://comtrade.un.org/data>

39 <http://www.mme.gov.br/documents/10584/177708/Produ%C3%A7%C3%A3o+e+Comercializa%C3%A7%C3%A3o+de+Mica/97580b15-0a87-4673-955d-49e38fdb227?version=1.0>

40 <http://www.dnpm.gov.br/dnpm/sumarios/mica-sumario-mineral-2014/view>

The Gemological Institute of America has been sourcing minerals from the Cruzeiro mine in the state of Minas Gerais for generations.⁴¹ According to a 2016 Reuter's Special Report called "Blood Mica," the German drug maker Merck KGaA also reportedly sources some of the mica it uses from Brazil,⁴² as does pearlescent pigment producer Kuncai.⁴³

No further information could be found pertaining to specific companies, traders, processors or exporters.

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

Brazil is on the CIA's World Factbook list of countries with child labour, with a reported 3 per cent of children between the ages of 5 and 13 years working.⁴⁴ This source is however dated (2009) and no update could be located. Despite being dated (2009), the CIA's World Factbook of countries with child labour includes Brazil. Brazil is also on UNICEF's list of countries with child labour.⁴⁵

Brazil also appears on the US Department of Labour (DOL) List of Goods produced by Child Labour, al-

though there is no mention of mica mining. The products on the DOL list produced by children are beef, bricks, cashews, cattle, ceramics, cotton, footwear, manioc/cassava, pineapples, rice, sisal and tobacco.⁴⁶

In addition, a 2012 DOL briefing notes that "although evidence is limited, there are reports that children are also found mining gemstones and breaking rocks into gravel" in Brazil.⁴⁷ The same DOL brief on Brazil notes that children and adolescents are also working in prostitution and sex tourism "near mining settlements in the Amazon region".⁴⁸ There are also media reports that children work in Brazil's talc mines in the Minas Gerais region, which is also where mica is mined.⁴⁹ In general, there are many reports⁵⁰ of the sexual exploitation of children in Brazil.⁵¹

STOP CHILD LABOUR INITIATIVES

UNICEF⁵² and Humanium work to raise awareness about children's rights in general and child labour in particular.⁵³ The ILO also works to stop forced labour by children in Brazil.⁵⁴

MICA PRODUCTION IN BRAZIL (METRIC TONNES)

BRAZIL	TMR	USGS	BGS ³⁷	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	10,000	12,000	450,000	NA
2014	11,500	11,500	427,341	NA
2013	NA	6,200	9,728	11,520
2012	NA	6,200	5,220	NA

37 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

41 <https://www.gia.edu/gia-news-research-cruzeiro-tourmaline-mine-expedition>

42 <http://news.trust.org/shorthand/mica/>

43 http://www.kuncaiurope.com/images/pdf/Statement_Kuncai.pdf

44 <https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2255.html#20>

45 <http://data.unicef.org/topic/child-protection/child-labour/>

46 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

47 <https://www.dol.gov/ilab/reports/child-labor/findings/2012TDA/brazil.pdf>

48 <https://www.dol.gov/ilab/reports/child-labor/findings/2012TDA/brazil.pdf>

49 <http://brazzil.com/5507-children-as-young-as-5-work-in-brazils-talc-mines/>

50 <http://www.coha.org/made-in-brazil-confronting-child-labor/>

51 <https://www.channel4.com/news/brazils-darker-side-drug-addiction-and-child-exploitation>

52 https://www.unicef.org/protection/files/Child_Labour_and_UNICEF_in_Action.pdf

53 <http://www.humanium.org/en/americas/brazil/>

54 http://www.ilo.org/wcmsp5/groups/public/@ed_norm/@declaration/documents/publication/wcms_111297.pdf

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC Committee is concerned that the activities of companies in the mining and construction sectors often lead to the following: resettlement of communities without compensation; the contamination of water resources and food; and environmental degradation. There is also no regulatory framework for businesses and industries to take social and environmental responsibility. The CRC Committee recommends that such frameworks are put into place, especially in the mining and construction sectors.

The CRC Committee is also concerned about the large number of children working mainly in the informal and agricultural sector, and reports multiple cases in which judges have authorised children under the age of 16 to work or engage in hazardous work. The CRC Committee recommends that action be taken to remove children from hazardous work situations, particularly in the agricultural and mining sectors. Moreover, Brazil should ensure that children under 18 are not authorised for employment in hazardous work.⁵⁵

ANALYSIS

- Serious differences exist between the TMR, US and BGS data on mica production in Brazil, which warrants further investigation. Such large discrepancies could suggest the existence of illegal mining.

MICA IMPORT/EXPORT IN BRAZIL (METRIC TONNES)

BRAZIL EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	4,241	NA	2,138
2015	4,401	4,401	2,356	2,356
2014	3,868	3,868	2,710	2,710
2013	NA	5,746	NA	2,497
2012	NA	5,151	NA	2,222

55 OHCHR, UN Treaty Body Database, http://tbinetnet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolNo=CRC%2fC%2fBRA%2fCO%2f2-4&Lang=en

56 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf>

57 <http://atlas.media.mit.edu/en/profile/hs92/252510/>

58 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/bra/show/252510/2015/

4. CANADA

DETAILS OF MICA MINING

According to the website ElectricCanadian, Canada⁵⁹ is one of the three principal mica-producing countries in the world, after India and the USA. Three hundred mines have reportedly been set up in Canada to produce mica, although there are currently only 25 in operation. Canada is known for its phlogopite or amber mica, which is most suitable to be used as an insulator.⁶⁰ Canada's amber mica deposits are within a 1,200 square mile area in the province of Quebec and a 900 square mile area in the province of Ontario, separated geographically by the Ottawa River. According to Canadian mica expert G.C. Hawley, however, new sources of phlogopite mica near Lamy, Quebec may soon be available.⁶¹

The Canadian Government does not report mica production levels;⁶² in fact production figures are classified as “confidential” in government reports.

However, according to Canadian mica expert Hawley, the only company producing mica in Canada is Suzorite Mica. Hawley estimates that Suzorite Mica has produced 25,000-30,000 metric tonnes per year over the past decade, which is slightly higher than either the USGS or BGS figures.⁶³ The BGS figures are flat estimates; they assume that production continues, but there are no published data.⁶⁴ Mica mining in Canada is done on an industrial scale. It is open-pit and legal.

THE KEY PLAYERS

Canada's largest mica mining operators are reportedly the General Electric Company (Schenectady, NY, USA); Webster & Company (Ottawa); Blackburn Bros. (Ottawa); Wall-Ingford & Company (Ottawa); O'Brien & Fowler (Ottawa); and Kent Bros. (Kingston) according to a Canadian mining website.⁶⁵

According to the Canadian Mining Association's 2015 report, Imerys Mica Suzorite Inc,⁶⁶ located at Lac Letondal, is the only mica mine operation in Canada.⁶⁷ The Canadian Government's Ministry of Natural Resources website also notes this same “open-pit” mica mine as the only industrial mining of mica taking place in Canada.⁶⁸

Canada's mica production, according to the Mining Association of Canada, is less than 1,000 tonnes and is therefore not registered in the country's overall non-metallic mineral production (2008-2014).⁶⁹

Suzorite Mica (now a subsidiary of Imerys) is Canada's only mica producer. Suzorite Mica Products is North America's only producer of dry ground phlogopite flake and powders. The company continued to be the dominant exporter of mica to the United States, mainly for use in plastics.⁷⁰

“Suzorite Mica production is about 25 to 30 kt/a (27,500 to 33,000 stpy). This has been fairly constant over the last decade. At one time, almost all of this was exported to the United States. But now, only about half goes to the United States. The balance of Suzorite exports goes to Asia and Europe.”⁷¹

HUMAN RIGHTS RISKS

There is no evidence of possible human rights violation risks, including environmental risks, related to mica mining in Canada.

IMPACT ON CHILDREN

N/A.

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

N/A.

STOP CHILD LABOUR INITIATIVES

N/A.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC expresses concern about transnational corporations registered in Canada that are negatively impacting the rights of indigenous peoples outside Canada, in particular with regard to gas, oil and mining companies. Canada lacks a regulatory framework to hold these businesses accountable for human rights and environmental abuses.⁷²

MICA PRODUCTION IN CANADA (METRIC TONNES)

CANADA	TMR	USGS	BGS	NATIONAL GOV.
2016	22,000	NA	22,000	CONFIDENTIAL
2015	22,000	22,000	22,000	CONFIDENTIAL
2014	22,000	22,000	22,000	CONFIDENTIAL
2013	16,000	22,000	NA	CONFIDENTIAL
2012	1,600	22,000	NA	CONFIDENTIAL

MICA IMPORT/EXPORT IN CANADA (METRIC TONNES)

CANADA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	21,426	NA	1,810
2015	20,483	20,483	1,296	1,296
2014	21,363	21,633	935	934
2013	NA	20,228	NA	1,130
2012	NA	21,118	NA	1,092

59 The data was collected from Amsterdam for Canada in the months of March and April 2017.

60 <http://www.electriccanadian.com/transport/mines/nonmetallic.htm>

61 <http://www.electriccanadian.com/transport/mines/nonmetallic.htm>

62 <http://sead.nrcan.gc.ca/prod-prod/ann-ann-eng.aspx>

63 <https://insurancenewsnet.com/oarticle/Industrial-Minerals-Review-2013-a-546863>

64 Email 2 June 2017 from Teresa Brown, Mineral Commodity Geologist from the British Geological Survey.

65 <http://www.electriccanadian.com/transport/mines/nonmetallic.htm>

66 <http://mining.ca/sites/default/files/documents/Facts-and-Figures-2015.pdf>

67 <http://mining.ca/sites/default/files/documents/Facts-and-Figures-2015.pdf>

68 Mica Mine Imerys Mica Suzorite Inc., Quebec, open-pit, industrial mica mine, Ministry of Natural Resources (27 March 2017).

69 <http://mining.ca/sites/default/files/documents/Facts-and-Figures-2015.pdf>

70 <http://www.electriccanadian.com/transport/mines/nonmetallic.htm>

71 <http://www.electriccanadian.com/transport/mines/nonmetallic.htm>

72 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fCAN%2fCO%2f3-4&Lang=en

5. CHINA

DETAILS OF MICA MINING

China⁷³ is the world's leading producer of coal, gold and most rare earth minerals.⁷⁴ It is the world's leading producer of aluminium, antimony, barite, bismuth, cement, fluorspar, graphite, iron and steel, lead, magnesium, mercury, molybdenum, phosphate rock, salts, talc, tin, tungsten and zinc.⁷⁵

China is also officially the biggest producer of mica, according to the USGS. However, mica production figures for China should be viewed as cautious estimates, given that there is substantial variation between the USGS and the BGS statistics, and national statistics have not yet been ascertained. The BGS notes that mica production figures are estimates based on exports,⁷⁶ while the USGS notes that production figures are based on an unnamed Chinese report.⁷⁷ Also, mica is rarely

featured in any Chinese mineral industry analyses, including the USGS Mineral Yearbook on China.⁷⁸

Mica is mined in Lingshou City, which is in the Chinese province of Hebei in the northeast of the country.⁸² There is also a big mica deposit in the central Nanling district in southern China.⁸³ Shuozhou, in the northeast part of the country, also has mica deposits.⁸⁴ Phlogopite, a form of mica, is reportedly found at the Yaogangxian Mine in the Hunan Province.⁸⁵ Muscovite mica, which is the most common form of mica, is reportedly found at Xuebaoding Mountain near Pingwu in the Sichuan Province.⁸⁶

The autonomous Xinjiang region⁸⁷ in the northwest of China has the "highest" reserves of mica in the

country.⁸⁸ There may be other areas where mica is mined or where there are mica deposits. A Chinese government report from 2015 notes that a mica/quartz schist was discovered in the Longquan Terrain of the Cathaysia Massif in southern China.⁸⁹

According to the OEC, China sent most of the mica it exported in 2015 to Japan (48%), other Asian countries (7.8%) and South Korea (8%).⁹⁰ In the same year, China received most of the mica it imported from India (71%) followed by Madagascar (12%) and then from Japan (5.8%).⁹¹

According to the OEC (which sources data from Comtrade), the biggest exporters of mica in crude form, sheets and splittings (HS92:252510) are India (45 per cent) and Madagascar (16 per cent), followed by China (12 per cent).⁹² However, the USGS does not even list China as a sheet mica producer.⁹³ No further information could be found to identify the scale or method of mining.

THE KEY PLAYERS

It is very difficult to ascertain the "key players" in China. Mica mining appears to take place in different

parts of the large country, and there do not appear to be any official production statistics or lists of active mica mines in the country. The list of companies below includes some mines and manufacturers, as well as suppliers and exporters.

The China Lingshou City Chengsheng mica factory is one of the largest mica mines in the Hebei Province.⁹⁴ The company Hebei Ninghe Trading Co. Ltd markets itself as having the biggest mica mine in Lingshou, also in the Hebei Province, producing around 100,000 tonnes of mica per year.⁹⁵

Hebei Ninghe Trading Co. Ltd is the sales company of Lubaishan (LBS), and holds the mineral right to this deposit for 20 years.⁹⁶

China Hebei Xinfu Mineral Industry Co. Ltd is also a supplier/importer/exporter of mica.⁹⁷

Shijiazhuang Huihuangyuan Commercial Trade Co. Ltd is a supplier of mica, also based in the Hebei Province.⁹⁸

Huajing Mica Co. Ltd is a manufacturer and supplier of mica, based in Shijiazhuang.⁹⁹

Hebei Zinfu Mineral Co. Ltd exports mica and is based in Shijiazhuang.¹⁰⁰ There are also various commercial sites set up to sell mica online; note that the distributors are often based in either Hebei or Shandong.¹⁰¹

MICA PRODUCTION IN CHINA (METRIC TONNES)

CHINA	TMR	USGS ⁷⁹	BGS ⁸⁰	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	785,000	780,000	151,000 ⁸¹	
2014	780,000	800,000	159,000	
2013	NA	770,000	161,000	
2012	NA	770,000	149,000	

73 The data collected from Amsterdam for China during the month of April 2017.

74 https://www.pwc.com/id/en/asia-school-of-mines/assets/chinas-mining-sector_benson-wong.pdf

75 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ch.pdf>

76 Email to SOMO, 2 June 2017.

77 Email to SOMO, 17 May 2017.

78 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ch.pdf>

79 <https://minerals.usgs.gov/minerals/pubs/mcs/2015/mcs2015.pdf>

80 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=145&agreeToTsAndCs=agreed>

81 Note BGS says the figures are "conservative and based on exports"

82 <http://www.mica-china.com/>

83 <http://link.springer.com/article/10.1007/s00126-006-0084-4>

84 <http://search.chinadaily.com.cn/search?query=mica+mining>

85 <http://www.minerals.net/mineral/phlogopite.aspx>

86 <http://www.minerals.net/mineral/muscovite.aspx>

87 [http://www.chinaminingtj.org/ru/document/A_Guide_to_Investment_in_China%27s_Mineral_Industry\(2012\).pdf](http://www.chinaminingtj.org/ru/document/A_Guide_to_Investment_in_China%27s_Mineral_Industry(2012).pdf)

MICA IMPORT/EXPORT IN CHINA (METRIC TONNES)

CHINA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	151,485	151,586	112,018	112,019
2014	159,120	159,120	100,965	100,965
2013	NA	160,855	NA	91,312
2012	NA	149,212	NA	85,488

88 <http://china-trade-research.hktdc.com/business-news/article/Facts-and-Figures/Xinjiang-Market-Profile/ff/en/1/1X000000/1X06BVVK.htm>

89 <http://www.mlr.gov.cn/sjpd/zybq/2015/201510/P020151030354926948039.pdf>

90 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/chn/show/2525/2015/

91 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/chn/show/2525/2015/

92 <http://atlas.media.mit.edu/en/profile/hs92/252510/#Exporters>

93 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf>

94 <http://www.mica-china.com/products.php>

95 <http://www.europages.co.uk/companies/mica.html>

96 <http://www.europages.co.uk/HEBEI-NINGHE-TRADING-COLTD/00000003847351-151118001.html>

97 <http://www.europages.co.uk/CHINA-HEBEI-XINFU-MINERAL-INDUSTRY-COLTD/00000003972769-243655001.html>

98 <http://www.europages.co.uk/SHIJIAZHUANG-HUIHUANGYUAN-TRADE-C-LTD/CHN080235-17830001.html>

99 <http://www.europages.co.uk/HUAJING-MICA-CO-LTD/00000003945683-222834001.html>

100 <http://www.europages.co.uk/HEBEI-XINFU-MINERAL-COLTD/00000004559920-350271001.html>

101 <http://www.made-in-china.com/products-search/hot-china-products/Muscovite.html>

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The DOL reports that child labour is used to make the following products: coal (mining), cotton, electronics, fireworks, footwear, garments, nails, textiles and toys.¹⁰² A "Child Labor in China" report from 2007 states: "There are large numbers of legal minors or children engaged in some form of work after dropping out of school early."¹⁰³ The report then classifies six categories of child labour, including regular workers, casual workers, household helpers, apprentices, work-study students and forced labourers. Child labour¹⁰⁴ in China has been reported¹⁰⁵ and documented.¹⁰⁶ However, much of the publicly available material is dated and there does not appear to be any official statistics around child labour.

According to a report by the China Labour Bulletin, official numbers of child labourers in China are not known because "undisclosed information and data on the handling of child labour cases nationwide is classified by the Chinese Government as highly secretive".¹⁰⁷

STOP CHILD LABOUR INITIATIVES

China reportedly launched a programme to stop child labour in the Democratic Republic of the Congo (DRC)¹⁰⁸ when companies including Apple, Samsung, Sony and the Chinese companies Huawei and Zhejiang Huayou Cobalt were exposed for using child labour to make batteries.¹⁰⁹ The UN has launched a global campaign to stop child labour by 202 in countries around the world including in China.¹¹⁰

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC has indicated its concern about widespread cases of children receiving lead poisoning due to business activities. This has caused permanent mental and physical disabilities to hundreds of thousands of children. The CRC also recommends that China strengthen its implementation of regulations regarding the compliance of businesses with human rights standards, and particularly children's rights.

It is reported that child labour and exploitation is widespread in China. Many children are believed to be involved in hazardous work and the worst forms of child labour, particularly in the mining, manufacturing, and brick industries. The protection of children aged 16-18 from hazardous work is insufficient.¹¹¹

ANALYSIS

- However large the figures appear to be for Chinese mica output/export/import, these numbers should be considered as estimates given that there is very little known about the mica industry in China. The BGS states that its production figures are estimates based on official exports, while the USGS states that its production figures are based on an unnamed Chinese report.
- Although the USGS does not list China as a producer of sheet mica,¹¹² the OEC dataset notes that China exported mica in crude form, including sheets and splittings, to the UK, Japan and Finland in 2015.¹¹³ Given that China is a manufacturing superpower, both for domestic consumption and for exported products, it is conceivable that the country requires significant amounts of mica for manufacturing purposes in all of its various forms, including for the electronics industry (sheet mica) and the pigment industry (flakes and ground mica).
- Most of the mica China imported in 2015 came from India (71 per cent). This is a red flag, given the high levels of illegal mining and child labour in Indian mica mines. China also imported mica from Madagascar (12 per cent).
- Child labour, including child mining, is a documented problem in China, but there is very little accessible and current information available.
- China is a red flag country for three reasons. Firstly, due to the country's child labour that includes child mining. Secondly, mica production figures are all estimates and quite varied, suggesting that there is no reliable information available on the production of mica. Thirdly, China is a manufacturing superpower, using all forms of mica for both electronics and pigments. This mica is imported from countries that are suspect of child labour, including India and Madagascar.

102 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

103 http://paper.usc.cuhk.edu.hk/webmanager/wkfiles/6471_1_paper.pdf

104 <http://www.scmp.com/news/china/society/article/2048231/clothing-factories-eastern-china-import-child-labor-migrant>

105 <http://www.voicesofyouth.org/en/posts/child-labor-in-china>

106 <http://www.nytimes.com/2008/04/30/world/asia/30iht-01china.12457878.html>

107 http://paper.usc.cuhk.edu.hk/webmanager/wkfiles/6471_1_paper.pdf

108 <http://news.sky.com/story/child-miners-firm-refuses-to-apologise-over-cobalt-sourcing-10785313>

109 <https://www.ft.com/content/a695b9eb-01ba-36fc-8f1b-1a7ef7191917>

110 <https://www.theguardian.com/world/2012/oct/29/un-eliminate-child-labour-2020>

111 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fCHN%2fCO%2f3-4&Lang=en

112 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf>

113 <http://atlas.media.mit.edu/en/profile/hs92/252510>



6. FINLAND

DETAILS OF MICA MINING

Since 1979, the entire production of mica in Finland¹¹⁴ has been from the Archean Siilinjärvi carbonatite deposit.

In the Siilinjärvi apatite mine, situated in the eastern part of Finland, the mined ore contains 10 per cent apatite, 65 per cent phlogopite, 20 per cent calcite and dolomite combined, and 5 per cent other minerals. The apatite concentrate is used for the production of phosphoric

acid. Phlogopite is a by-product, and is sold under the trade name "Kemira Mica" for the different types of fillers.¹¹⁵ The Siilinjärvi mine is a large open-pit mine. Muscovite can also be produced as by-product from the Kinahmi and Kutemajärvi mines, but production has still not begun as investment is needed to further purify the mica.¹¹⁶ According to the OEC database, the most exports in 2015 went to Japan (39 per cent),

MICA PRODUCTION IN FINLAND (METRIC TONNES)

FINLAND	TMR	USGS	BGS ¹¹⁷	NATIONAL GOV.
2016	NA	54,000	NA	NA
2015	54,000	54,000	11,836	NA
2014	54,000	53,970	11,973	NA
2013	NA	53,394	11,244	NA
2012	NA	39,605	12,112	NA

the US (17 per cent), Germany (14 per cent), and China (7.5 per cent). The remaining was exported to European countries.

THE KEY PLAYERS

Mica production - initiated in 1985 by the Kemira company and since 2005 owned by LKAB Minerals (formerly Minelco Ltd.) - has been around 12,500 tonnes per year since 2010. LKAB sells phlogopite mica under the product name MicaFort. According to the safety data sheet, it is used as reinforcing filler and functional filler.

HUMAN RIGHTS RISKS

Not found

IMPACT ON CHILDREN

N/A

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

N/A

STOP CHILD LABOUR INITIATIVES

N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC has expressed its concern that Finnish companies do not directly or indirectly prohibit the use of child labour. Moreover, there are no restrictions regarding the import or selling of goods produced using child labour. The CRC recommends setting up a framework to this end in order to ensure that businesses comply with standards of corporate social responsibility.¹¹⁹

MICA IMPORT/EXPORT IN FINLAND (METRIC TONNES)

FINLAND EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	7,226	7,226	211	211
2014	7,909	7,909	265	264
2013	NA	11,073	NA	208
2012	NA	9,242	NA	2,266

FINLAND MINERALS YEAR BOOK ¹¹⁸	BIOTITE METRIC TONNES	CONCENTRATE METRIC TONNES	TOTAL
2016	NA	NA	NA
2015	42,000	12,000	54,000
2014	41,997	11,973	53,970
2013	42,150	11,244	53,394
2012	27,493	12,112	39,605
2011	31,504	12,896	44,400

114 The data collected for Finland was done so in May 2017.

115 The effect of phlogopite mica on the sintering point and colour of a claybody, 1997. http://www2.uiah.fi/arkisto/elokuvat/hortling/ah_phlogopite.html

116 Mineral Deposits of Finland, by Wolfgang Derek Maier, Raimo Lahtinen, etc. <https://books.google.nl/books?id=c0abBwAAQBAJ&pg=PA700&lpg=PA700&dq=industrial+mining+mica+finland&source=bl&ots=rLSggOe3-w&sig=bY33ti7WSq4wE8P42t9DfhaLEmQ&hl=nl&sa=X&ved=0ahUKEwiUxcl834jUAhXOaFAKHUqVAOcQ6AEITDAE#v=onepage&q=industrial%20mining%20mica%20finland&f=false>

117 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed> These figures are representing mica concentrate.

118 <https://minerals.usgs.gov/minerals/pubs/commodity/mica/myb1-2015-mica.pdf>

119 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fFIN%2fCO%2f4&Lang=en

7. FRANCE

DETAILS OF MICA MINING

According to the OEC database, most of France's mica export in 2015 went to Germany (48 per cent), Italy (15 per cent), Spain (5 per cent) and the UK (5 per cent).

THE KEY PLAYERS

N/A

HUMAN RIGHTS RISKS

Not found

IMPACT ON CHILDREN

N/A

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

N/A

STOP CHILD LABOUR INITIATIVES

N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned that there is inadequate information about the measures that France has taken to regulate company activities in order to ensure that children's rights are respected, also outside of their territory.¹²¹

MICA PRODUCTION IN FRANCE (METRIC TONNES)

FRANCE	TMR	USGS	BGS ¹²⁰	NATIONAL GOV.
2016	NA	20,000	NA	NA
2015	20,000	20,000	20,700	NA
2014	20,000	20,000	20,200	NA
2013	NA	20,000	19,700	NA
2012	NA	20,000	18,000	NA

¹²⁰ <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

MICA IMPORT/EXPORT IN FRANCE (METRIC TONNES)

FRANCE EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	13,780	NA	3,148
2015	13,892	13,891	2,195	2,149
2014	13,201	13,201	2,049	2,049
2013	NA	13,352	NA	2,603
2012	NA	11,771	NA	2,321

¹²¹ http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2ffra%2fCO%2f5&Lang=en



8. INDIA

DETAILS OF MICA MINING

In its report “Beauty and a beast”,¹²² SOMO researched the most relevant Indian states regarding volumes of mica mining: Jharkhand and Bihar. According to the report, the majority of Indian mica mining takes place at the border of the Jharkhand and Bihar states, and around 90 per cent of this mica is illegally mined. At one point there were over 700 mica mines in India,¹²³ but the industry was hit by legislation to limit deforestation in 1980, forcing most mines to close. However the growing demand for natural mica has activated illegal operators to access hundreds of the old closed mines, many in the forests of Jharkhand’s Koderma and Giridih districts.¹²⁴

According to the Indian Minerals Yearbook 2015, the most important mica belts are located in Andhra

Pradesh, Bihar, Jharkhand, Maharashtra, Odisha, Rajasthan and Telangana. Occurrences of mica pegmatites have also reported in Gujarat, Haryana, Karnataka, Kerala, Tamil Nadu and West Bengal.

Koderma district in India’s Jharkhand Province has the world’s largest mica deposits, according to the British Geological Survey.¹²⁵ Many of the mines are deep in forests that are designated conservation areas.

We need to be aware of the fact that there is a major problem with the official statistics provided by the Indian Government, namely that the production from the illegal mines is not included. The data in the below table originates from the reporting of 39 legal mines in 2013-14 and only 31 legal mines in 2014-15. Of these

PRODUCTION OF MICA (CRUDE AND WASTE/SCRAP), 2012-2015 (BY STATE IN METRIC TONNES)

	2012-13	2013-14	2014-15*
Andhra Pradesh	8,592	9,287	8,280
Bihar	2,939	3,381	1,378
Jharkhand	782	2,110	0
Rajasthan	5,198	6,635	2,830
Total India	17,511	21,412	12,488
Number of mines	NA	39	31

*Source: Indian Minerals Yearbook 2015, Government of India, Ministry of Mines India. Data up to January 2015.

122 SOMO, March 2016, commissioned by Terre des Hommes.

123 The data for India was collected during the month of April 2017.

124 <http://in.reuters.com/article/india-children-mining-idINKCN1201XN>

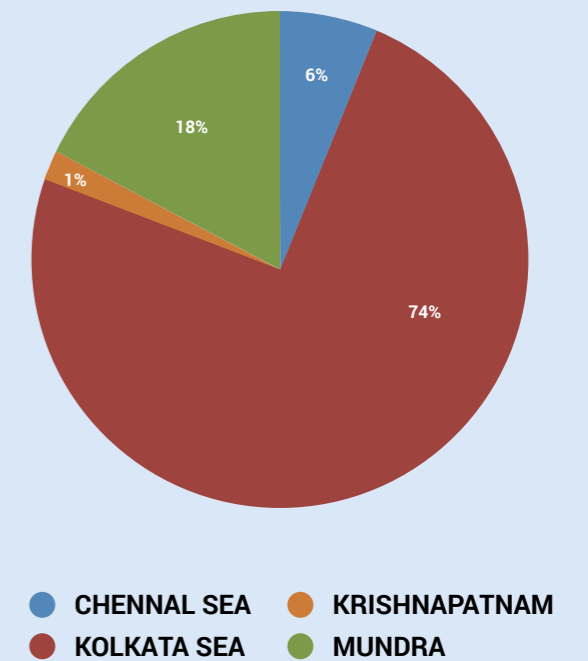
125 <http://www.itv.com/news/2017-02-22/itv-news-investigates-indias-shameful-child-labour-mining-for-sparkling-mica/>

31 mines, 25 are located in Andhra Pradesh (Nellore), one in Bihar (Nawada), zero in Jharkhand, and five in Rajasthan (Ajmer, Bhilwara and Rajsamand).¹²⁶

An analysis of the export data of Zauba¹²⁷ over 2015 shows that 74 per cent of the Indian mica exported is shipped from the Kolkata Sea (nearest port to Jharkhand and Bihar). The second biggest port of loading is Mundra (17.6 per cent, nearest to Rajasthan), the third is the Chennai Sea (6.1 per cent, nearest to Andhra Pradesh) and the fourth is Krishnapatnam (1 per cent, nearby Nellore, also in the state of Andhra Pradesh).¹²⁸ Based on this data it can be concluded that mica production in other states is minimal, as 97.7 per cent is already produced in the four major production locations.

The discrepancy between the export data and the official national statistics on production data is huge. This is due to the fact that there are no legal mines in Jharkhand, nor any official data on mica production there. SOMO estimated in 2016 that 89 per cent of the mica exported from Jharkhand and Bihar is from illegal mines. In the meantime, there are clear indications that 100 per cent of the mica production from this region is currently illegal, as the mining licenses of the

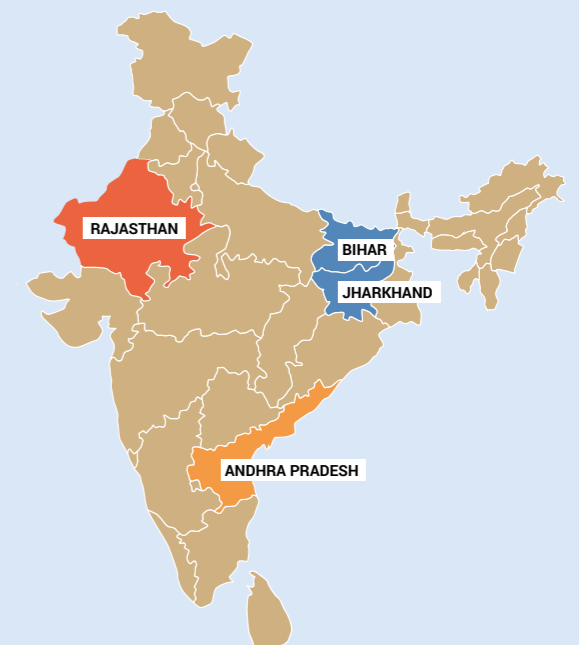
PERCENTAGE OF INDIAN MICA EXPORTS



WHERE IS MICA FOUND?

INDIA EXPORTED MICA 2015 METRIC TONNES

- 100.600
- 20.400
- 15.000



126 Indian Minerals Yearbook 2015, Government of India, Ministry of Mines India.

127 <https://www.zauba.com/#> (assessed 24 April 2017).

128 All other ports of loading are exporting less than 1 per cent of the total export. These include: Baroda, Bombay Air Cargo, Chennai Air Cargo, Delhi Air Cargo, Kanakpura-Jaipur ICD, Kolkata Air Cargo, Nhava Sheva Sea, Patparganj, Petrapole Road, Sabarmati ICD, Tughlakabad and Tuticorin Sea.

few supposedly legal mines have expired. There were no new licenses granted for prospecting new mica mining areas in 2014 or 2015 in either Bihar or Jharkhand.¹²⁹ According to Indian authorities, only one mica mine was granted an extended license in 2016, but this was the Shokliya mine in Rajasthan.¹³⁰

In the autumn of 2016, following the media exposure on child labour and the cover-up of child deaths in

illegal mica mining, authorities in India raided mica mines, arrested traders and initiated steps to regulate the underground industry.¹³¹

Although there are legal mines in Andhra Pradesh, an estimated 39 per cent of the export from this region is believed to be mined illegally, as well as 77 per cent of Rajasthan's export.¹³² Note in the mica production table below that there are great discrepancies between sources.

MICA PRODUCTION IN INDIA (METRIC TONNES)

INDIA	TMR	USGS	BGS	NATIONAL GOV. ^a
2016	NA	NA	NA	NA
2015	12,300	19,000	600	12,491
2014	18,500	18,500	636 ^a	21,412
2013	NA	14,000	1,660	17,511
2012	NA	13,700	1,256	NA

a These numbers include crude mica, waste and scrap. The source of the national statistics is the Indian Minerals Yearbook 2015, Ministry of Mines India. Note that the export figures are larger than the production figures, which indicates that much of the mica production is not reported and is thus illegally mined.

MICA IMPORT/EXPORT IN INDIA (METRIC TONNES)

INDIA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	127,338	NA	1634
2015	135,919	135,919	851	851
2014	138,332	138,332	996	996
2013	NA	130,540	NA	812
2012	NA	125,218	NA	588

129 Bulletin of Mining Leases & Prospecting Licenses, 2015, Indian Bureau of Mines, <http://ibm.nic.in/writereaddata/files/12022016162007Bulletin%20of%20MLPL%202015%20with%20preface.pdf>. See also: LIST OF PROSPECTING LICENSES OF MAJOR MINERALS AS OF 31.03.2016, <http://ibm.nic.in/writereaddata/files/05062016175100LIST%20OF%20ACTIVE%20MAJOR%20MINERAL%20PROSPECTING%20LICENCES%20AS%20ON%2031%20MARCH%202016.pdf>

130 Bulletin of Mineral Information, Volume 34, No. 1, April 2016 - September 2016, Indian Bureau of Mines, <http://ibm.nic.in/writereaddata/files/03212017164024BMI%20April16%20-%20Sept16.pdf>

131 Reuters, "India cracks down on illegal mica mines after expose reveals child deaths", 30 September 2016, <http://in.reuters.com/article/india-children-mining-idINKCN1201XN>, (accessed 25 April 2017).

132 SOMO, March 2016.

According to the OEC, the largest exporters of mica in crude form, sheets and splitting (HS92:252510) are India (45 per cent) and Madagascar (16 per cent), followed by China (12 per cent).¹³³ Given that the USGS states that India is the biggest producer of sheet and splitting mica, we looked at the official Comtrade export figures to find out what the official percentage of sheet and split mica is within the overall export of Indian mica.

According to the UN Comtrade dataset, India and Madagascar have been dominating the export market in sheet mica. The UN Comtrade data below reveals that over the last five years, Madagascar has annually increased its production of sheet mica, with the exception 2014 when India exported more.

INDIAN MICA EXPORT FROM COMTRADE

INDIA EXPORT COMTRADE FIGURES	INDIA MICA EXPORT	INDIA MICA SHEETS & SPLITTINGS EXPORT	PERCENTAGE OF SHEETS & SPLITTINGS FOR INDIAN EXPORT
2016	127,338	11,081	8.7%
2015	135,919	11,655	8.6%
2014	138,332	13,758	10%
2013	130,540	4,240	32.5%
2012	125,218	4,727	38%

EXPORTS OF SHEET MICA BY INDIA AND MADAGASCAR BY VALUE AND VOLUME (2012-2016)

SHEET MICA EXPORT ¹³⁴	MADAGASCAR VOLUME (METRIC TONNES)	MADAGASCAR VALUE	INDIA VOLUME (METRIC TONNES)	INDIA VALUE
2016	15,545	\$3.06M	11,081	\$7.6M
2015	13,652	\$3.04M	11,655	\$7.7M
2014	8,648	\$2.03M	13,758	\$9.1M
2013	6,795	\$1.5M	4,240	\$6.1M
2012	4,792	\$1.6M	4,727	\$5.7M

Source: UN Comtrade Database, table made by SOMO.

133 <http://atlas.media.mit.edu/en/profile/hs92/252510/#Exporters>

134 <https://comtrade.un.org/data/>

INDIAN GOVERNMENT MICA EXPORT/IMPORT

INDIA EX/IM QUANTITY TONNES	NATIONAL GOV. EXPORT ¹³⁶	NATIONAL GOV. IMPORT
2014-2015	140,960	2,240
2013-2014	127,882	2,049
2012-2013	127,610	2,285
2011-2012	131,777	2,458
2010-2015	126,554	1,687

The OEC states that the biggest buyers of Indian sheet and splitting mica are China (33 percent), the USA (11 per cent), Japan (11 per cent) and South Korea (5.2 per cent).¹³⁵ The government of India released the above figures, which differ slightly but are in the same vicinity as the Comtrade figures.

The national statistics show that the majority of the exported mica goes to China (88,171 tonnes), and to a lesser extent Saudi Arabia (8,264 tonnes), Belgium (7,344 tonnes), Japan (6,679 tonnes) and the USA (5,524 tonnes).

According to the Industrial Minerals Review, most sheet products used in North America are imported from India (94 per cent) and China (5 per cent). Global production of sheet mica products in 2011 was about 5.2 kilotonnes with India as the largest producer of mica sheet, with a reported 3,500 tonnes. Russia was second with 1,500 tonnes.¹³⁷

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The number of child labourers involved in mica mining in Jharkhand and Bihar is estimated to reach up to 20,000.¹³⁸ Investigations by the Thomson Reuters Foundation over a three-month period found children

working in and around mica mines in northern Jharkhand, southern Bihar and in the northwest of the country in Rajasthan.¹³⁹ An investigation by ITV in 2017 found that an estimated five to ten children die in these mines each month. The number of adult fatalities is higher, but 90 per cent of the deaths are never reported. The mine shafts reach deep into the earth, and cave-ins are commonplace because they are not shored up.¹⁴⁰

The number of products produced by children in India is one of the largest (if not the largest) on the DOL list. The products listed are bidis (hand-rolled cigarettes), brassware, bricks, carpets, cotton, cottonseed (hybrid), embellished textiles, fireworks, footwear, garments, gems, glass bangles, incense (agarbatti), leather goods/accessories, locks, matches, rice, silk fabric, silk thread, soccer balls, stones and sugarcane. This list demonstrates that that child labour is a widespread problem in India.¹⁴¹

STOP CHILD LABOUR INITIATIVES

- The Kailash Satyarthi Children's Foundation is implementing a Child Friendly Villages Programme. The scheme aims to get children in the region into school and out of the mines by working with local communities and governments to improve educational infrastructure and living conditions.

- Terre des Hommes together with local partner organisations is implementing a social empowerment programme against child labour in Jharkhand and Bihar.
- Currently, a significant number of stakeholders are committed as active members to the "Responsible Mica Initiative, a cross sectoral partnership that works along three pillars (community empowerment, traceability & specifications and legal framework & advocacy) that works towards a responsible Indian mica supply chain.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned about the displacement of many children and families due to manufacturing operations. Moreover, it recommends that India establish regulations to ensure business compliance with human rights law, and the remediation of victims when violations occur. Companies should do assessments on the impact of their activities, and disclose these assessments to the public.

There are still many children involved in child labour and hazardous work in India, in the mining sector among others.

Progress has been made on legal aspects, however, as India has announced that it will ratify the ILO conventions regarding a minimum age for employment and will prohibit the worst forms of child labour.¹⁴⁶

ANALYSIS

- The fact that export levels are so much higher than the official figures for mining production is a red flag. This usually indicates the presence of illegal mining in the form of artisanal and small-scale mining, which - unlike industrial mining - normally operates without leases and licenses. Illegal mining of mica has been reported in the states of Jharkhand and Bihar (around 90 per cent has been illegally mined). Although there are legal mines in Andhra Pradesh, 39 per cent of the export from this region is also estimated to be mined illegally, as well as 77 per cent of Rajasthan's export.

- The presence of child labour in the mica mines in Jharkhand and Bihar has been widely reported. Investigators have also reported on child labour in mica mines in Rajasthan. Reports about child labour in Andhra Pradesh mines are not clear. The fact that there is also substantial illegal mica mining in Andhra Pradesh makes it plausible that child labour also takes place in this region, particularly when taking into account that child labour is a widespread problem in India.
- India is one of the biggest exporters of sheet mica.
- Mica is also found in Maharashtra, Odisha, and Telangana. Occurrences of mica pegmatites are also reported in Gujarat, Haryana, Karnataka, Kerala, Tamil Nadu and West Bengal. The production from these locations is however assumed to be minimal (at least less than one percent of the total export), as the loading ports in the proximity of these locations are only able to export small amounts.

¹³⁵ http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/ind/show/252510/2015/

¹³⁶ Statistical Profiles of Minerals 2014-15, Indian Bureau of Mines.

¹³⁷ Industrial Minerals Review 2014, Mining Engineering, 1 July 2015.

¹³⁸ SOMO, March 2016.

¹³⁹ Thomson Reuters Foundation, "Blood Mica, Deaths of child workers in India's mica 'ghost' mines covered up to keep industry alive", 3 August 2016, <<http://news.trust.org/shorthand/mica/>>.

¹⁴⁰ ITV News, "ITV News investigates: India's shameful child labour mining for beauty industry sparkle", 22 February 2017, <<http://www.itv.com/news/2017-02-22/itv-news-investigates-indias-shameful-child-labour-mining-for-sparkling-mica/>>.

¹⁴¹ <https://www.dol.gov/ilab/reports/child-labor/list-of-goods>

¹⁴⁶ http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fIND%2fCO%2f3-4&Lang=en (January 2018).

9. IRAN

DETAILS OF MICA MINING

Iran¹⁴⁷ reportedly has 68 types of minerals and “57 billion tonnes of mineral reserves including large deposits of coal, iron ore, copper, lead, zinc, chromium, uranium and gold.”¹⁴⁸ However, according to the reports, including Iranian Mines and Mining Industries Development and Renovation, mica was the country’s least valuable mineral export in 2016.¹⁴⁹

Iran’s various mica reserves and resources amount to more than a million tonnes, and there are reportedly more than 40 deposits around the country.¹⁵⁰ According to Encyclopaedia Iranica, there are two active mica extraction mines: Masula, in western Gilan Province near the Caspian Sea, and Karabakh in the East Azerbaijan Province.¹⁵¹ Mica is also reportedly mined in the north of the country at the Gharah Bagh Mica Mine in Urmia County in the West Azarbaijan Province.¹⁵²

According to the OEC, Iran exported mica to Turkey¹⁵³ in 2015, valued at US\$ 335,000. In the same year, Iran imported¹⁵⁶ mica from India (73 per cent), China (18 per cent) and Turkey (8 per cent), valued at US\$ 119,000. No further details could be found pertaining to the mine sites.

THE KEY PLAYERS

According to a commercial website, Novin Ertebat, Borun Cable Material Co., Ltd and EnergyKav, among others, are listed as working in the Iranian mica industry.¹⁵⁷ An additional commercial website has a different list of companies working in the mining and processing sectors, including Maacan Mining & Industrial Co., Basti, DMPowder, the Doroud Morvarid Powder Company, IMTC, Persian Mineral Co., Mica Foshe, Narinpudr, Kavandishan Fan Afarin, among others.¹⁵⁸

MICA PRODUCTION IN IRAN (METRIC TONNES)

IRAN	TMR	USGS	BGS ¹⁵³	NATIONAL GOV. ¹⁵⁴
2016	NA	NA	NA	NA
2015	5,600	NA	5,600	NA
2014	5,600	NA	5,600	NA
2013	NA	NA	5,635	NA
2012	NA	NA	7,000	NA

147 The data collected for Iran was done so during the month of April 2017.

148 <https://financialtribune.com/articles/economy-business-and-markets/58965/iran-s-mineral-output-258m-tons-in-10-months>

149 <https://financialtribune.com/articles/domestic-economy/47547/mineral-exports-rise-imports-fall-over-4-months> (15 March 2017)

150 <http://www.iranicaonline.org/articles/mining-in-iran-i>

151 <http://www.iranicaonline.org/articles/mining-in-iran-i>

152 <https://www.mindat.org/loc-230774.html>

153 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=151&agreeToTsAndCs=agreed>

154 <https://www.amar.org.ir/english/Statistics-by-Topic/Mining#2274541-time-series>

155 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/irn/show/2525/2015/

156 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/irn/show/2525/2015/

157 <https://search.gmdu.net/b/Mica%20Iran.html>

158 http://www.companiess.com/iran_mica_product.html

The MGT Mineral Company may mine mica in Iran, but this could not be confirmed.¹⁵⁹

No further details could be found concerning the key Iranian mica players.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

Child labour exists in Iran, according to UNICEF,¹⁶⁰ and according to the DOL list, children in Iran are in the brick making and carpet trades.¹⁶¹ Media¹⁶² and NGOs note that child labour in Iran is widespread, and that child trafficking is also an issue in the country.¹⁶³

No further information could however be found on child labour linked to mica.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations on the private sector are available: neither in concluding observations or state reports nor in civil society reports.

The CRC expresses concern about the large number of children engaged in hazardous work in Iran, such as garbage collection, brick kilns and industrial workshops. Moreover, a law exempting workshops with

fewer than 10 employees from labour regulations is especially worrying. The CRC urges Iran to prohibit the employment of children below the age of 18 years in hazardous conditions.¹⁶⁴

ANALYSIS

- The mining industry is very developed, and looking to attract investment.
- More information was available about Iran than expected, although unfortunately little was found about mica. Iranian Mines & Mining Industries Development & Renovation (IMIDRO) is a good source of information about mining in Iran, but there is no mention of mica¹⁶⁵
- Iran does not appear to export much mica, and imports about a third more than it produces nationally. This suggests that it is cheaper to import mica - mostly from India - than it is to further develop the Iranian mica industry.
- Child labour in Iran is a problem, notably in the brick building and carpet trades, which are distributed across the country. Given that the clay for bricks is mined, and children are unequivocally used for making bricks in Iran, there is a possibility that child mining of mica could also be taking place. However, no mention of children involved in mining could be found.

MICA IMPORT/EXPORT IN IRAN (METRIC TONNES)

IRAN EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA		NA	
2015	3	1.19K (\$)	1,660	335K (\$)
2014	0		1,578	
2013	NA		NA	
2012	NA		NA	

159 <http://www.mgtmineral.com/index.php/oil-gas-industries/mica>

160 https://www.unicef.org/iran/media_8323.html

161 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

162 <http://archive.radiozamaneh.com/english/content/iranian-government-slammed-rise-child-labour/>

163 <http://iranian-americans.com/forgotten-children-human-trafficking-child-labor-in-iran/>

164 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fIRN%2fCO%2f3-4&Lang=en

165 http://imidro.gov.ir/general_content/3111-Iran-at-Glance.html

10. SOUTH KOREA

DETAILS OF MICA MINING

Mica is not widely reported as being mined as a mineral or natural resource in South Korea¹⁶⁶, and according to the USGS, mica production in South Korea has decreased over the last 15 years. In 2001, South Korean mica production was 109,339 metric tonnes.¹⁶⁷ In the most recent USGS report for 2013, mica production in South Korea was reported to be 25,143 metric tonnes.¹⁶⁸

In a dated (2010) report from the Korean Energy Economics Institute, the authors state that mica reserves exist. However, the thrust of the report is that Korea has a strong “downstream” industry, given the manufacturing activities of POSCO (steel), Korea Zinc Co. (zinc), and LS-Nikko (copper). Mining in South Korea is very small industry, accounting for less than

0.15 per cent of GDP in 2009. Mines are closed each year, given that the government’s strategy is to develop overseas mining ventures.¹⁶⁹

According to the 2015 Annual Report of the Korea Institute of Geoscience and Mineral Resources (KIGAM), mica is found in the regions of Anmyeondo, Wonsando, Hwangdo, Oeyeondo and Hodo.¹⁷⁰ According to a Japanese geology journal, mica also exists in the eastern Unsan County mining district of South Korea.¹⁷¹

Production figures in the TMR/USGS and BGS data are divergent. This should be investigated, given that the USGS data is almost double the BGS data for 2015.

According to the OEC, in 2015 South Korea imported the most mica from China (53 per cent), Japan (18 per cent)

and India (10 per cent).¹⁷⁴ The country exported mica to Vietnam (62 per cent), Indonesia (12 per cent), China (8 per cent) and the USA (7.4 per cent).¹⁷⁵

Since South Korea exported much less mica than it produced and/or imported, it is probable that the country uses the mica it produces and imports for domestic manufacturing. South Korea is a manufacturing powerhouse, given that it is home to Hyundai, LG Electronics, Samsung, and steel producer POSCO.

No further information could be found about mica mines in South Korea.

THE KEY PLAYERS

Almonty Industries, through Woulfe Mining Corp., owns the Almonty Korea Tungsten Project in South Korea, which has white mica. According to the company’s website, financing for the project is being negotiated.¹⁷⁶

According to Mbendi, there are two main industrial minerals mining companies in South Korea, including Korea Resources Corporation and Daehan Mineral, although no direct links to mica have been found.¹⁷⁷

No further information about companies involved in mica in South Korea could be found.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

In South Korea, the Labour Standards Law forbids the employment of children younger than 15 without special permission from the Ministry of Labour. Children under 18 need permission from their parents to work.¹⁷⁸

No evidence could be found of child labour or children involved in or affected by mica mining.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC notes that the increasing interest of South Korea businesses in corporate social responsibility has so far focused only on environmental issues. It urges South Korea to create a legislative framework to regulate the prevention of adverse human rights impacts from business activities. The CRC also states that by importing products from countries under investigation by the ILO for using forced child labour, South Korea is complicit in the breaching of child rights. When negotiating free trade agreements,

MICA PRODUCTION IN SOUTH KOREA (METRIC TONNES)

SOUTH KOREA	TMR	USGS ¹⁷²	BGS ¹⁷³
2016	NA	NA	NA
2015	25,000	30,000	17,405
2014	30,000	30,000	24,205
2013	NA	26,000	25,143
2012	NA	32,000	25,594

MICA IMPORT/EXPORT IN SOUTH KOREA (METRIC TONNES)

SOUTH KOREA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	532	531	9,090	9,092
2014	536	535	8,741	8,734
2013	NA	1,088	NA	9,850
2012	NA	835	NA	9,169

166 Data collected for South Korean during April 2017.

167 <https://minerals.usgs.gov/minerals/pubs/country/2005/ksmyb05.pdf>

168 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ks.pdf>

169 Woo Jin Chung, “Experience and Goals of the ROK in Regional Mineral Sector Development Cooperation,” (Sept 2010); Korea Energy Economics Institute (24 April 2017).

170 Kigam Annual Report 2015, pg 27, <http://www.kigam.re.kr/> (13 April 2017).

171 S.Hori, “Geology and Ore Deposits of the Eastern Unsan Mining District, Korea,” (11 April 2008), The Journal of the Geological Society of Japan Vol 49 (1942), No 580, (13 April 2017).

172 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ar.pdf>

173 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=30237&agreeToTsAndCs=agreed>

174 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/kor/show/2525/2015/

175 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/kor/show/2525/2015/

176 http://www.almonty.com/projects/korea_tungsten/

177 <https://www.mbendi.com/indy/ming/indm/as/kr/index.htm>

178 <http://www.ncbuy.com/reference/country/humanrights.html?code=ks&sec=6d>

South Korea should ensure that human rights assessments, including child rights, are conducted and that measures are taken to prevent violations.

The CRC is concerned about the increasing number of working children in South Korea, and urges the government to take measures in order to address the underlying socio-economic factors leading to this situation.¹⁷⁹

ANALYSIS

- There are no particular red flags with respect to child labour in South Korea. However, the fact that Korea imports mica from China and India warrants further investigation, given the existence of child labour in these countries.
- Given that South Korea is home to some giant companies in the electronics sector, further research could be done into the sourcing of the mica used by these companies. Furthermore, given that South Korea is a manufacturing superpower, further research should look into imports of processed mica and imported products that could include mica. This would provide an overview of the mica used in electronics manufacturing, in particular.

11. MADAGASCAR

DETAILS OF MICA MINING

Madagascar¹⁸⁰ is a large island located off the east coast of Africa. The country exports mainly phlogopite mica. Phlogopite mica is less flexible, but more heat resistant than the muscovite mica commonly found in the Jharkhand/Bihar regions of India.^{181,182} Phlogopite mica is often used to produce mica paper and tape, according to the websites of Malagasy exporters and Chinese importers.¹⁸³

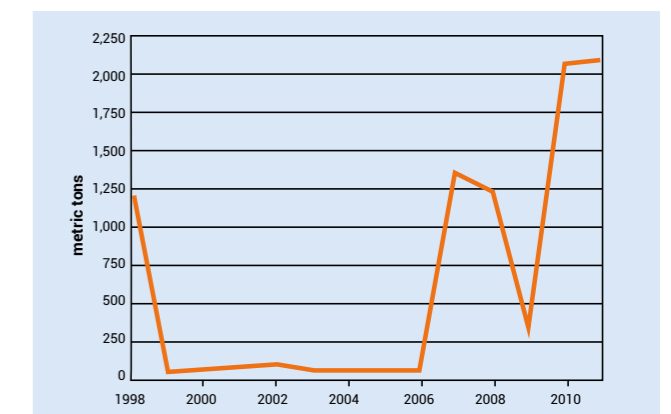
Enormous mica crystals come from Betroka in the Tulear Province of Madagascar.¹⁸⁴ However, in addition to phlogopite, the country also has muscovite deposits.¹⁸⁵

Geological studies and explorations have established the existence of a broad range of mineral resources¹⁸⁶ in Madagascar, including precious metals and gemstones.¹⁸⁷ Only some of these mineral resources, including chromite, nickel and ilmenite, have already been industrially exploited. Others, including iron ore and coal, are currently under exploration.¹⁸⁸ Other mineral resources, including mica, have only been exploited in small-scale extraction projects and by artisanal miners.

There is the potential for more phlogopite to become available as a by-product of graphite and vanadium mining ventures in Madagascar.¹⁸⁹ A list of 39 locations where phlogopite can be found in the country can be viewed through the link in the footnote.¹⁹⁰

The mining of phlogopite mica experienced a strong dip in 2009, when a violent coup took place in Madagascar. However, after the coup leaders were installed, production was again increased. (Also see the section on human right risks in this country analysis). Mica seems to reside in the category of artisanal and illegal mining, a category that is dominated by Madagascar's exports of precious stones (sapphires) and gold.¹⁹¹ Along with the larger trade in sapphires and gold, there is also no publicly available information on material flows and child labour within the country with regard to mica.

PRODUCTION OF PHLOGOPITE IN MADAGASCAR (1998-2010)



Source: Knoema.¹⁹²

180 Data collected for Madagascar was done so over the month of March and April 2017.

181 Minerals Zone, "Mica", <http://bit.ly/1170cMB>

182 Other countries that are principal producers of phlogopite mica are Sri Lanka, Canada and Finland, as most of the other mica-producing countries produce muscovite mica. Industrial Minerals Review 2014, Mining Engineering 1 July 2015.

183 Silimica, "Glass Backed Phlogopite Mica Tape", <http://bit.ly/1PXmsTY>; ShenZhen ShengDa Electrical Material Co., Ltd., "Mica sheet and mica tape", <http://bit.ly/1owl3Z>; Groupe Akesson Mineragrex S.A., "Data Sheet Phlogopite Mica", <http://bit.ly/1SLcsB3>; ZOARA (Malagasy exporter of mica and precious stones), <http://bit.ly/1Vx0vuY>

184 <http://www.minerals.net/mineral/phlogopite.aspx>

185 <http://www.nationsencyclopedia.com/Africa/Madagascar-MINING.html>

186 These include industrial and metallic minerals: titanium (ilmenite), of which Madagascar holds the world's largest reserves, graphite, gypsum, dolomite, silica, mica, quartz, gold, platinum, silver, iron ore, copper, zinc, nickel, cobalt, chromite, zircon, coal and rutile. <http://www.developingmarkets.com/perspectives/why-madagascar-intriguing-fdi-destination>

187 Ruby, sapphire (half of the world's supply), emerald, aquamarine, beryl, tourmaline, topaz, garnet, cordierite, rose quartz, and decorative stones (crystal, marble, silicified wood, jasper and limestone). <http://www.developingmarkets.com/perspectives/why-madagascar-intriguing-fdi-destination>

188 <http://www.developingmarkets.com/perspectives/why-madagascar-intriguing-fdi-destination>

189 Industrial Minerals Review 2014, Mining Engineering, 1 July 2015.

190 https://www.mindat.org/minlocsearch.php?frm_id=mls&cform_is_valid=1&cf_mls_page=1&minname=phlogopite+®ion=madagascar

191 Extractive Industries Transparency Initiative (EITI), "Madagascar 2013 EITI Report", <http://bit.ly/1Qtatkt>; Extractive Industries Transparency Initiative (EITI), "Madagascar EITI points to lost revenues due to mineral smuggling", March 2015, <http://bit.ly/1RUDzIL>.

192 Koema, <https://knoema.com/USGSMIN2013/mineral-resources-2013?tsid=1021930>

179 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fKOR%2fCO%2f3-4&Lang=en

There were no official governmental statistics on mica production found.

Note, when comparing the production table with the export table, that the export of mica is larger than the production. This is a red flag, and indicates the possibility that some of the production is mined illegally since it is not accounted for in the production figures. Also note in the table below that according to UN Comtrade data, Madagascar's overall mica exports increased by 34 per cent in 2016 to 22,311 metric tonnes, up from 16,664 tonnes in 2015. Mica export

figures have been rising between 25 per cent and 35 per cent annually since 2013.

According to the OEC, in 2015 Madagascar exported its crude mica in sheets and splittings to China (73 per cent), Belgium/Luxembourg (10 per cent) and Russia (7.6 per cent).¹⁹⁴

Mica was not mentioned as a mining product in Madagascar's latest report for the Extractive Industries Transparency Initiative (EITI), which disclosed tax payments made by companies in 2013 to the Malagasy government.

MICA PRODUCTION IN MADAGASCAR (METRIC TONNES)

MADAGASCAR	TMR	USGS	BGS ¹⁹³	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	19,000	9,600	9,400	NA
2014	9,600	9,600	9,400	NA
2013	NA	NA	10,779	NA
2012	NA	NA	12,532	NA

MICA IMPORT/EXPORT IN MADAGASCAR (METRIC TONNES)

MADAGASCAR EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	22,311	NA	NA
2015	16,664	16,664	0	NA
2014	12,280	12,280	0	200
2013	NA	9,781	NA	102
2012	NA	12,531	NA	NA

193 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

194 OEC, http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/mdg/show/252510/2015/

The table below demonstrates that since 2013, the majority of Madagascar's mica exports have been sheets and splittings, and therefore, we can assume, destined for the electronics industry. The data in the table below also demonstrate that in 2012, sheet and split mica exports were less than half of total mica export. Since 2013 however they have become increasingly larger, and currently represent 70 per cent of total mica export.

THE KEY PLAYERS

Pan African Mining, a subsidiary of the Thai group Italian Thai Development, has held a 10,000 square kilometre concession since 2009 where it mines uranium (under the name of Pan Atomics) at the Maromby site. The company has reportedly built substantial infrastructure, including an airfield at Sakoa where it also extracts mica, citrine, crystal and coal. The Thai group reportedly belongs to Premchai Karnasuta, who is the world's 35th richest person according to Forbes Magazine.¹⁹⁵ A company called Groupe Akesson Mineragrex S.A. exports 2,000 tonnes of mica (muscovite and phlogopite) per year, according to its website.¹⁹⁶

The USGS also mentions a company, Societe des Mines d'Ampandranhava in Tolagnaro, which reportedly processes 2,000 tonnes of mica annually.¹⁹⁷ Other information (about this same company)¹⁹⁸ reports that

it operated the most important phlogopite mine in Madagascar, but that the mine closed in 2016. This mine was started in 1938 by the company Union des Micas, and is currently owned by the company Société Minière d'Ampandrandava (SOMIDA). An underground mine has not yet been verified, but was reportedly partially accessible in 2013.¹⁹⁹ Societe des Mines d'Ampandrandava produced about 1,000 tonnes of mica per year from mines in southeastern Madagascar. Increased production between 2009 and 2012 was probably attributable to artisanal miners near Analamaria in the Anosy region.²⁰⁰

Another company that advertises as a mica mining company and promotes its main products - including mica, tourmaline, beryl ore, quartz rose and grandidierite - is the Amboasary Mining Company. No further details could be found about the actual mines or the key players in the Madagascar mica sector.

HUMAN RIGHTS RISKS

Since the coup in March 2009, and the official installment of the coup leaders the following year, Madagascar has been marked by chaotic management, corruption, insecurity, intimidation and poverty. There is a large-scale looting of natural resources. Poverty affects children more severely in southern Madagascar, where

MADAGASCAR MICA EXPORT FROM COMTRADE

MADAGASCAR MICA EXPORT FROM UN COMTRADE	MICA (METRIC TONNES)	MICA SHEET & SPLITTINGS (METRIC TONNES)	PERCENTAGE OF MADAGASCAR MICA SHEET/SPLITTINGS EXPORTED
2016	22,311	15,545	70%
2015	16,664	13,652	82%
2014	12,280	8,648	70%
2013	9,781	5,795	59%
2012	12,531	4,792	38%

195 <http://www.cetim.ch/violations-of-human-rights-in-madagascar/> (14 March 2017).

196 Groupe Akesson Mineragrex S.A, "Mica", <http://bit.ly/1TweaWN>

197 US Geological Survey, Mineral Commodity Summaries, "Mica", January 2016, pages 110 and 111, <http://on.doi.gov/1Pw00D>
US Geological Survey, "The Mineral Industry of Madagascar", August 2014, <http://on.doi.gov/1Qr3ZTk>

198 Ampandrandava phlogopite mine, Beraketa Commune, Bekily District, Androy Region, Tuléar Province (Toliara), Madagascar.

199 <https://www.mindat.org/loc-27843.html>

200 USGS, 2013 Minerals Yearbook, MADAGASCAR, February 2016.

over 65 per cent of the region's children live in extreme poverty. These children are being deprived of their basic rights, including food, health, education, housing and security. Since June 2012, southern Madagascar, and particularly the population in the Androy and Anosy regions, has been repeatedly targeted by police and armed militia. It is in this part of the country that the mineral resources are significant and varied, and include industrial minerals (uranium, mercury, rare earths, mica, coal, ilmenite) in addition to precious and semi-precious stones, gold, very high quality diamonds, and oil.²⁰¹

According to testimonies by local leaders, certain political and economic lobbies would like "to 'get rid of a good part of the South's population to facilitate the exploitation of the land and subsoil resources in this part of Island."²⁰² NGOs say that forced displacement and land confiscation from traditional owners takes place in Madagascar, with the complicity of the national authorities.²⁰³ This enables transnational corporations to use the land for mining or agribusiness, In addition to this lack of consultation of the affected populations regarding mining development projects, the pollution of farmers' living environments deprives them of their means of subsistence. Deforestation continues at a breathtaking pace. Environmental degradation has become a major issue.²⁰⁴

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL's List of Goods Produced by Child Labour has listed Madagascar as one of the countries practicing child labour, with sapphire and stone mining as well as picking vanilla.²⁰⁵

The most recent list of UNICEF child labour statistics indicates that 23 per cent of all children in Madagascar

are engaged in child labour.²⁰⁶ A national survey published in 2012 indicated that 81 per cent of child workers between the ages of 5 and 17 were engaged in hazardous work. This is equivalent to 1.7 million children.²⁰⁷

In December 2013, a French journalist travelled hundreds of kilometres inland with a mica trader. The journey by truck included travelling to the city of Ilakaka and a hamlet near the village of Analamaria in the south of Madagascar. The journalist went with the trader into the village to buy mica mined by the families. There was no electricity, no gas, no running water, no school, no health clinic, and no officials in the village. Poor families, the elderly, children, women and men were all working together in the bush to mine mica, which they had been collecting and mining for months. The journalist reported that of the 80 children who lived in this village, none of them ever went to school. Many of the children were also sick.²⁰⁸

STOP CHILD LABOUR INITIATIVES

Child labour in vanilla production in Madagascar has been reported in the media.^{209, 210} An ILO representative said that the organisation has studied the northern region of Sava since 2009, and that they have accounted for 20,000 children, or around 31-33 per cent of the work force, involved in vanilla production.²¹¹ There is now a Sustainable Vanilla Initiative that aims to improve the livelihoods of the vanilla bean farmers, hosted by the Sustainable Trade Initiative (IDH).²¹²

In February 2016, the ILO Committee of Experts on the Application of Conventions and Recommendations (CEACR) asked Madagascar to supply full details on its worst forms of child labour, to be discussed at the International Labour Conference in May-June 2016.²¹³

UN COMMITTEE ON THE RIGHTS OF THE CHILD

In Madagascar, the CRC is concerned that the exploitation of natural resources - for example in the mining sector and by the extractive and forestry industries - does not always benefit the local community, including the children. Harmful effects for children and their families may be the result, through the economic exploitation of children, the resettlement of communities without appropriate services, and damage to the environment. There is a lack of regulatory frameworks concerning social and environmental responsibility for businesses.

The CRC is concerned about the large number of children involved in child labour, particularly in domestic services, agriculture and the mining industry. Although there are policies combating child labour, there is no information about the prosecution of responsible persons.²¹⁴

ANALYSIS

- In Madagascar, the mica mining conditions are quite similar to those in Jharkhand and Bihar in India.
- According to the USGS, there is no sheet mica mined in Madagascar. However Comtrade data notes that Madagascar has been increasingly exporting sheet and split mica since 2012, and in 2016 sheet and split mica represented 70 per cent of Madagascar's total mica export.
- Given that mica production figures are lower than mica export figures overall suggests that there could be illegal mica mining in Madagascar.
- That there are no official Madagascar sheet and split mica production figures, yet the Comtrade export data of sheet and split mica demonstrate that Madagascar is the world's biggest exporter of sheet and split mica, warrants further investigation.

- The OEC website notes that Madagascar's biggest customers for its exported sheet and split mica in 2015²¹⁵ were China, Belgium/Luxembourg and Russia.²¹⁶
- Mica seems to reside in the category of artisanal and illegal mining, and given that Madagascar is the global top exporter of sheet and split mica by volume, according to the OEC,²¹⁷ further investigation is needed in order to validate these findings.
- The Comtrade summary of exported mica sheet and split (HS92:252510) notes that despite (officially) exporting the greatest quantity of mica by weight, Madagascar earns roughly five times less than India and less than half of what the Chinese and Brazilians earn for their mica exports.
- The described human right violations taking place in Madagascar enable mining development projects - especially in the South and including mica mining - and have a grave impact on children and children's rights.
- According to the TMR market report and Comtrade export figures, Madagascar is increasingly becoming a more important source of mica. Comtrade export data pinned the country as the official largest exporter of sheet mica in 2016, most of which was exported to China.
- Madagascar is clearly a red flag country given the volumes of mica deposits (both developed and undeveloped); the prevalence of child labour and child exploitation in many sectors including in mica mining according to media reports; and the fact that it is the biggest exporter of sheet and split mica, used almost exclusively by the electronics industry.

201 <http://www.cetim.ch/violations-of-human-rights-in-madagascar/>

202 <http://www.cetim.ch/violations-of-human-rights-in-madagascar/>

203 <http://www.cetim.ch/violations-of-human-rights-in-madagascar/>

204 <http://www.cetim.ch/violations-of-human-rights-in-madagascar/>

205 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

206 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys (ENSOMD 2012-2013).

<http://data.unicef.org/topic/child-protection/child-labour/>

207 International Labour Organization, "Report of the Committee of Experts on the application of Conventions and Recommendations", 5 February 2016, pages 271 - 274, <http://bit.ly/1XHQGgO>.

208 "Sur la piste du mica de Madagascar", Sud Ouest, 22 Décembre 2013.

209 <https://www.theguardian.com/global-development/2016/dec/08/madagascar-152m-vanilla-industry-soured-child-labour-poverty>

210 <https://www.danwatch.dk/en/undersogelse/thehiddenstofvanilla/>

211 <https://www.moneyweb.co.za/archive/20000-children-work-in-madagascar-vanilla-product/>

212 <https://www.idhsustainabletrade.com/initiative/sustainable-vanilla-initiative/>

213 This should be followed up for an update.

214 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fMDG%2fCO%2f3-4&Lang=en

215 <http://atlas.media.mit.edu/en/profile/hs92/252510/>

216 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/mdg/show/252510/2015/

217 <http://atlas.media.mit.edu/en/profile/hs92/252510/>

12. MALAYSIA

DETAILS OF MICA MINING

The mica produced in Malaysia²¹⁸ is called sericite. It is a fine-grained muscovite mica that is processed in various sizes of ground mica.²¹⁹ The government site detailing Malaysia's mica production notes that ground mica is used specifically in industrial applications such as paint fillers and cosmetics, as mold lubricant in the rubber industry, as a fluxing agent for welding electrodes, and as reinforcement in plastics.²²⁰

The government mineral statistics site indicate that there were two mica mines operational in 2016, both located in Bidor, Perak and operating in a former tin mine.²²¹ According to the government website, only 20 workers work at these two mica mines.

According to the Malaysian Government website, most of Malaysia's mica production is exported to Japan, Thailand,

Taiwan and South Korea.²²⁵ No further details could be found pertaining to mica mines in Malaysia. Malaysia's mica production is exported to a diverse list of countries. It is noteworthy that mica exports were higher than mica production in 2015, even when taking imports into account.

child labour in the palm oil industry.²³⁰ The most recent list of UNICEF child labour statistics does not mention the occurrence of child labour in Malaysia.²³¹

THE KEY PLAYERS

There were two mica producers in Malaysia in 2016, both located in Bidor, Perak and operating on the land of a former tin mine.²²⁷ One of these producers is Kaolin (Malaysia) Sdn Bhd,²²⁸ based in Tapah, Perak. No further details were found concerning the key companies involved in the Malaysian mica trade.

STOP CHILD LABOUR INITIATIVES

Child labour in mica mining is not reported, hence there are no initiatives in the country to end child labour in mica mining.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations about the private sector are available.²³²

ANALYSIS

- Malaysia is a substantial exporter of mica onto the world market, exporting between 6,000-7,000 tonnes annually.
- No information was found about the artisanal and/or illegal mining of mica in Malaysia. The fact that export figures are higher than production figures however gives an indication that there is a level of artisanal and/or illegal mining.
- Although child labour is not reported in mica mining, there are however reports about child labour in the Malaysian palm oil industry.
- The presence of artisanal and/or illegal mica mining and the possible use of child labour needs further investigation, given that the possibility of child labour in mica mining exists.

MICA PRODUCTION IN MALAYSIA (METRIC TONNES)

MALAYSIA	TMR	USGS	BGS ²²²	NATIONAL GOV.
2016	NA	NA	NA	4,716 ²²³
2015	4,788	NA	4,788 ²²⁴	4,788
2014	5,659	NA	5,659	5,659
2013	NA	NA	4,363	4,363
2012	NA	3,967	3,967	3,967

MICA IMPORT/EXPORT IN MALAYSIA (METRIC TONNES)

MALAYSIA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	6,883	NA	1,039
2015	6,321	6,320	945	944
2014	6,135	6,134	1,243	1,243
2013	NA	6,911	NA	985
2012	NA	6,331	NA	823

HUMAN RIGHTS RISKS

Malaysia's human rights situation continued to deteriorate in 2016, with human rights defenders, activists, political opposition figures, and journalists facing harassment and politically motivated prosecution. The human rights issues related to Malaysia concern the following: freedom of expression; freedom of assembly and association; police abuse and impunity; criminal justice system; refugees, asylum seekers, and trafficking victims; judicial freedom; and discrimination based on gender, sexual orientation, and gender identity.²²⁹

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL's List of Goods Produced by Child Labour has listed Malaysia as one of the countries that exploits

Source: Database of the Observatory of Economic Complexity²²⁶

	EXPORT DESTINATION (LARGEST IMPORTERS ONLY)
2015	Japan (20%), Thailand (16%), US (14%), Indonesia (12%), South Korea (9.5%)
2014	Japan (23%), Thailand (17%), US (11%), Indonesia (11%), China (11%), South Korea (10%)
2013	Japan (29%), China (13%), Thailand (12%), Indonesia (8.5%), South Korea (7.9%), US (7.1%)

218 Data collected for Malaysia during the month of April 2017.

219 http://malaysianminerals.com/index.php?option=com_content&task=view&id=21&Itemid=45

220 http://malaysianminerals.com/index.php?option=com_content&task=view&id=21&Itemid=45

221 http://malaysianminerals.com/index.php?option=com_content&task=view&id=31&Itemid=54

222 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

223 http://malaysianminerals.com/index.php?option=com_content&task=view&id=21&Itemid=45

224 The value of 4,788 tonnes is reported as 2.87 (t)

225 http://malaysianminerals.com/index.php?option=com_content&task=view&id=21&Itemid=45

226 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/mys/show/2525/2013/

227 OEC Database, http://malaysianminerals.com/index.php?option=com_content&task=view&id=21&Itemid=45

228 <http://www.kaolin.com.my/sericite.html>

229 Human Rights Watch, <https://www.hrw.org/world-report/2017/country-chapters/malaysia>

230 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

231 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys.

<http://data.unicef.org/topic/child-protection/child-labour/>

232 http://tbineternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fMYS%2fCO%2f1&Lang=en

13. PAKISTAN

DETAILS OF MICA MINING

Despite it being a mineral-rich country, there is little information about mica mining in Pakistan.²³³

According to the USGS, Pakistan's mineral resources include clays, copper, dolomite, gypsum, iron ore, limestone, marble, salt, sand and gravel, and silica as well as precious stones. Energy resources include coal, natural gas and oil.²³⁴

In Pakistan, mica deposits are found in the Balochistan region.²³⁵ According to minerals.net, fine muscovite plates, often associated with valuable pegmatite gemstones, come from the Shigar Valley and Skardu district in northern Pakistan.²³⁶ The Mindat.org dataset lists mica, or minerals from the mica group, in 8 different regions of Pakistan.²³⁷

At the time of writing, a request had been made to the Ministry of Pakistan for mica production figures since no other official figures could be found. There are various commercial websites promoting the sale of mica mined in Pakistan.²³⁹

Pakistan's official mica exports declined quite dramatically between 2013 and 2014. For example, production officially fell to 410 metric tonnes in 2014 from 2,225 metric tonnes in 2013, which raises two questions. Firstly, what was the reason for the dramatic drop and what happened with production capacity at these mica mines during this period? And secondly, is it possible that the production figures were higher than what was officially reported?

MICA PRODUCTION IN PAKISTAN (METRIC TONNES)

PAKISTAN	TMR	USGS	BGS	PAKISTAN GOV.
2016	NA	NA	NA	NA
2015				
2014				
2013				
2012				

233 Data collected for Pakistan was done so over the month of May in 2017.

234 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-pk.pdf>

235 https://books.google.nl/books?id=32YVrPAHeSMC&pg=RA1-PA107&pg=RA1-PA107&dq=mica+production+of+pakistan&source=bl&ots=XUymTa26mb&sig=FU8iY0nz8z4QqJCzEalpnXldll&hl=nl&sa=X&ved=0ahUKewiSqMDyjfTAhUFb1AKHQD_A-cQ6AEINzAB#v=onepage&q=mica%20production%20of%20pakistan&f=false

236 <http://www.minerals.net/mineral/muscovite.aspx>

237 https://www.mindat.org/minlocsearch.php?frm_id=mls&cform_is_valid=1&cf_mls_page=1&minname=mica®ion=pakistan

238 <http://deepakawning.in/Aug-02/24906/mica-mining-in-balochistan/#>

239 <http://www.pk.all.biz/quartz-bgg1058363>

A closer look at Pakistan's mica exports shows us that much of what is exported is sheet mica. Sheet mica is mined by hand, and is used almost exclusively by the electronics industry.

Also of note is that according to UN Comtrade data, in 2012, 2013, 2014 and 2015 almost all of Pakistan's exported mica went to China.²⁴⁰ China thus appears to be the main buyer of Pakistani mica.

In recent years, namely in 2015 and 2014, Pakistan imported more mica than it exported, which warrants further scrutiny.

The major countries that import mica from Pakistan are:

- 2012: US (98.5 per cent of total import), India, Brazil and China
- 2013: India (58 per cent), US (23 per cent), South Korea (16 per cent)
- 2014: US (42 per cent), India (19 per cent), China (18 per cent), South Korea (13 per cent)
- 2015: US (89 per cent), Japan (6 per cent), China (4 per cent)



This photo from a commercial website promoting the sale of mica was taken at a mica mine in Baluchistan.²³⁸

MICA IMPORT/EXPORT REPORTED BY PAKISTAN TO UN COMTRADE (METRIC TONNES)

PAKISTAN EX/IM	COMTRADE EXPORT	COMTRADE SHEET MICA	PERCENTAGE OF SHEET MICA EXPORTED	COMTRADE IMPORT
2016	332	332	100%	859
2015	896	896	100%	944
2014	410	216	52%	417
2013	2,225	1,923	86%	462
2012	1,597	1,106	69%	647
2011	2,407	1,236	51%	331

240 <https://comtrade.un.org/data/>

Pakistan's imports of mica from China, as reported officially by China, are listed below. Note that China is Pakistan's biggest buyer of mica, and that almost a third of Pakistan's exported mica in 2013 went to China.

THE KEY PLAYERS

Home Crystal Minerals Corporation (CMC) is one of the leading mining and trading companies in Pakistan. CMC was incorporated in 1976 as an exporter of various sorts of metallic and non-metallic minerals from Pakistan.²⁴¹ The following companies were listed on the e-commerce site Alibaba promoting Pakistani mica: Gilgit-Baltistan Mettle & Minerals, Metal GB Minerals, Sana Traders, and Standard Paint Industries.²⁴² Little other information could be found pertaining to Pakistan's mica industry.

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL has found some of the worst forms of child labour in Pakistan, including forced domestic work and bonded labour in brick kilns as well as coal mines.

According to the DOL, the Government of Pakistan does not have the resources to enforce the laws prohibiting child labour, even in its worst forms.²⁴³

STOP CHILD LABOUR INITIATIVES

Pakistan's Ministry of Social Welfare and Special Education initiated a program that aims to remove children aged 5 to 14 from hazardous labour and provide them with education, clothing and a stipend. As of 2012, there were 151 national centres for the rehabilitation of child labourers in the country.

An ILO-funded program engages brick kiln owners in Sindh and Punjab to establish new practices to help eradicate bonded labour, including bonded child labour. The project links brick kiln workers to social safety nets.²⁴⁴

The Punjab provincial government scheme, which began in January 2016, helped place almost 90,000 underage Pakistani brick kiln workers in school as part of an initiative aimed at easing the long-standing problem of indentured labour.²⁴⁵

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations on the private sector are available.

The CRC is concerned about the large number of children involved in child labour, including hazardous work. Also, it has concerns about the low minimum age of 14 years for this kind of work. Pakistan is urged to take measures to eradicate child labour by addressing the root causes.²⁴⁶

ANALYSIS

- Pakistan's official export of mica rises and falls without explanation, which brings up the question of whether the figures are at all accurate.
- Pakistan exports mostly (if not entirely) sheet mica, which is mined by hand and used exclusively by the electronics industry.
- Pakistan also imports mica, but the source of the imports is unknown.
- Child labour is rife in Pakistan, including in coal and salt mining and in the brick industry. The DOL report notes that the extent of child labour in these sectors in Pakistan is unknown. It is thus possible that mica mining also uses child labour.

MICA IMPORTS REPORTED BY CHINA FROM PAKISTAN AND THE TOTAL (METRIC TONNES)

MICA IMPORT REPORTED BY CHINA	MICA IMPORT FROM PAKISTAN REPORTED BY CHINA	TOTAL MICA IMPORT BY CHINA FROM ALL COUNTRIES	PERCENTAGE OF WORLD TOTAL THAT IS IMPORTED FROM PAKISTAN BY CHINA
2016	NA	NA	NA
2015	139	112,019	0.12%
2014	175	100,965	0.17%
2013	690	91,312	0.76%
2012	612	85,488	0.72%
2011	547	112,019	0.48%

²⁴¹ <http://www.crystal-minerals.com/product.html>

²⁴² These links are found via Alibaba.com: <https://www.alibaba.com/countrysearch/PK/mica-mineral.html>

²⁴³ <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/pakistan>. More government initiatives can be found on page 6 of this document, see table 8.

²⁴⁴ <https://www.dol.gov/ilab/reports/child-labor/findings/2013TDA/pakistan.pdf>

²⁴⁵ Their World, May 2017, "Pakistan scheme helps 88,000 child brick workers go to school", <http://theirworld.org/news/pakistan-child-brick-workers-helped-into-school>, (February 2018).

²⁴⁶ http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fPAK%2fCO%2f5&Lang=en

14. PERU

DETAILS OF MICA MINING

Peru is ranked third among global producers of copper, silver, tin and zinc; fourth in molybdenum and lead; and fifth in gold, according to the USGS.^{247,248} It is estimated that Peru has around 200 operating mines, and according to mining consultants SES Professionals, Peruvian mining capacity could triple current levels of output in the near future.²⁴⁹

Copper, silver and lead are the most commonly mined commodities in Peru, while mica is the least mined mineral with a reported eight mines in the country.²⁵⁰ There is very little publicly available information about mica mining in Peru apart from The Diggings website, which reports that mica is mined in the Arequipa region, also a gold mining area.²⁵¹

The Mindat.org website notes that Peru has many deposits of muscovite mica including illite, sericite, natrolite, neotocite, nepheline and olivine. Mindat.org also states that Peru has four phlogopite deposits in the departments of Ancash, Ica, La Libertad and Puno.²⁵² Very little official information could be found about mica production in Peru, and neither the USGS or the BGS have any information about mica mining in the country.

Peru imports more mica than it produces, which suggests that it is cheaper to buy imported mica than to mine it in Peru. However given the reported mica deposits in the country, the question remains as to whether this Peruvian mica ends up in any official statistics. According to the OEC, in 2015 Peru imported mica from the USA (56 per cent), Germany (22 per cent) and Canada (11 per cent).²⁵³

MICA PRODUCTION IN PERU (METRIC TONNES)

PERU PRODUCTION	TMR	USGS	BGS	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	90	NA	NA	NA
2014	90	NA	NA	NA
2013	NA	NA	NA	NA
2012	NA	NA	NA	NA

247 Data collected for Peru was done so over the month of April in 2017.

248 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-pe.pdf>

249 <http://sesprofessionals.com/overview-of-perus-mining-industry/>

250 https://thediggings.com/per/arequipa-per3108/mines?primary_commodity_group=mica

251 <https://thediggings.com/commodities/gold/per>

252 https://www.mindat.org/minlocsearch.php?frm_id=mls&cform_is_valid=1&cf_mls_page=1&minname=phlogopite®ion=peru&sort=&submit_mls=Search

253 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/per/show/2525/2015/

No further information about mica production in Peru could be found.

THE KEY PLAYERS

According to The Diggings, none of the eight mica deposits in Peru are of “world-class quality” or considered “significant.”²⁵⁴ This could not be confirmed or verified with other sources.

No information could be found about the companies mining mica in Peru. According to Mining Global, the following companies have operations in Peru (if the companies are also active in the gold sector they have been marked with a (G)): Zinc Industries SA (G), Consorcio Minero Horizonte SA (G), Doe Run Peru, Fortuna Silver Mines Inc., Southern Copper Corporation, Rio Tinto, BHP Billiton (G), Gold Fields (G) and Barrick Gold (G).

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The CIA's World Factbook of countries with child labour includes Peru:²⁵⁵ A reported 34 per cent of children between 5-17 years of age are in the workforce (2007 figures). The DOL²⁵⁶ also lists Peru as a country

with child labour, as does UNICEF,²⁵⁷ although neither specifically connect mica mining with child labour.

However, gold mining in Peru is notorious for using child labour according to the ILO,²⁵⁸ media reports,²⁵⁹ NGOs²⁶⁰ and government reports. Given that both mica and gold are mined in the Arequipa region, there is a potential risk that children could also be working in mica mines.

Child labour and gold mining in Peru, which has also been linked to slavery, trafficking and the sexual exploitation of children, is reported and uncontested.²⁶¹ The investigation by NGO Verité into the worst forms of child exploitation reported that child slavery and sex slavery at illegal gold mines in Peru is “pervasive.”²⁶² The Verité investigation pointed to child slavery at illegal gold mines in the Arequipa region, which is also the mica mining region.²⁶³

STOP CHILD LABOUR INITIATIVES

According to the US DOL, the Peruvian government has made “significant advancement” in efforts to reduce child labour, through new laws and policies as well as by introducing inspections.²⁶⁴ However, the same DOL

MICA IMPORT/EXPORT IN PERU (METRIC TONNES)

PERU EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	40	NA	162
2015	37	36.7	240	240
2014	47	47	194	194
2013	NA	51	NA	169
2012	NA	48	NA	176

254 https://thediggings.com/per/arequipa-per3108/mines?primary_commodity_group=mica

255 <https://www.cia.gov/library/publications/resources/the-world-factbook/fields/2255.html#20>

256 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

257 <http://data.unicef.org/topic/child-protection/child-labour/>

258 http://www.ilo.org/global/about-the-ilo/multimedia/video/video-news-releases/WCMS_067872/lang--en/index.htm

259 <http://www.newyorker.com/business/currency/whos-to-blame-for-perus-gold-mining-troubles>

260 <http://amazonaid.org/gold-mining-is-modern-slavery-for-many-children-in-peru/>

261 <https://www.verite.org/wp-content/uploads/2016/11/Gold-Report-Conclusions.pdf>

262 <https://www.verite.org/wp-content/uploads/2016/11/Gold-Report-Conclusions.pdf>

263 <https://www.verite.org/wp-content/uploads/2016/11/Gold-Report-Conclusions.pdf>

264 <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/peru>

report notes that child labour in Peru is rife and that the Peruvian labour and criminal law agencies do not have the means or training to adequately deal with the situation.²⁶⁵ The report, which does not link child labour specifically with mica mining, also notes that Peruvian law allows teenagers to work in mining.²⁶⁶ Verité has made recommendations to the Peruvian Government, the US Government, and buyers and corporations.²⁶⁷

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned about the impact of mining and hydroelectric projects on the living conditions of children and their families, including hazards to their health and the environmental degradation connected to such projects. Moreover, the Committee is worried about the fact that the law on the rights of indigenous people does not apply to all groups, and that certain projects in the mining sector are excluded from the accompanying consultation process.

The Committee is also concerned that the minimum age for employment in Peru is 14 years of age and that child labour remains a problem, with a high percentage of children working in the worst forms of child labour. These include mining, agriculture, brick making, and illegal activities.²⁶⁸

ANALYSIS

- Peru imports more mica than it official produces, which suggests that it is cheaper for Peru to import mica than to mine it locally. However there are no verifiable figures to check the actual production of mica in Peru, given that neither the USGS nor the BGS report figures in the country.
- According to the OEC, Peru imported 56 per cent of its mica in 2015 from the US, followed by Germany (22 per cent) and Canada (11 per cent)²⁶⁹.
- Mica mining in Peru is not a significant commodity, and production and export numbers are not very high. However if artisanal or illegal mica mining exists, these figures would most likely not be visible

given that the export figures are less than the production figures. As there is documented evidence of illegal gold mining in the same region as the mica deposits, it is worth investigating whether illegal mica mining also exists.

- Child labour and child slavery in the Peruvian gold mining industry is rife, and well documented by governments, the UN, the media and NGOs.
- The known mica mines are in the Arequipa region, which is also a Peruvian gold mining region. This means that if children are mining for gold in this region, they could also work in the mica mines, and possibly under similar slave conditions as in the gold mines.

265 <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/peru>

266 <https://www.dol.gov/sites/default/files/images/ilab/child-labor/Peru.pdf>

267 <https://www.verite.org/wp-content/uploads/2016/11/Gold-Report-Conclusions.pdf>

268 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fPER%2fCO%2f4-5&Lang=en

269 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/per/show/2525/2015/



15. RUSSIA

DETAILS OF MICA MINING

According to the 2012 USGS mineral handbook for Russia, the country was ranked among the world's leading producers of mineral commodities that year.²⁷⁰ However, despite noting that Russia is a leader in mica production, there is very little else reported apart from that the country has three mica mines.

According to a USGS report from 2012, Russia has the Lopatova Guba mica pit in the north of the Kareliya Republic. It also has the Kovdor phlogopite mine in the Kola Peninsula in Murmanskaya Oblast territory. It also has the Irkutsk complex (JSC Vostoksluda), which is in the Irkutskaya Oblast.²⁷²

Although Russia is reportedly one of the largest producers of mica, earlier market research from 2006 notes that the "data of USGS on production of mica, including muscovite, in Russia are considerably underestimated".²⁷³ The USGS report on mica also notes that Russia has "moderate" sheet mica reserves and "large" scrap and flake mica reserves.

The USGS annual mineral handbook mentions Russia as a producer of sheet mica.²⁷⁴

There is a great discrepancy between USGS and BGS production figures. According to the BGS, given that there is no data published (presumably by the government), their figures are a "flat estimate".²⁷⁶

MICA PRODUCTION IN RUSSIA (METRIC TONNES)

RUSSIA	TMR	USGS	BGS ²⁷⁵	NATIONAL GOV.
2016	NA	NA	9,000	NA
2015	100,000	100,000	9,000	NA
2014	100,000	100,000	9,000	NA
2013	NA	100,000	9,000	NA
2012	NA	100,000	9,000	NA

270 Data collected for Russia was done so over the month of April and June in 2017.

271 <https://minerals.usgs.gov/minerals/pubs/country/2012/myb3-2012-rs.pdf>

272 <https://minerals.usgs.gov/minerals/pubs/country/2012/myb3-2012-rs.pdf>

273 http://www.infomine.ru/files/catalog/73/file_73_eng.pdf

274 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.111)

275 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=30399&agreeToTsAndCs=agreed>

276 Email to SOMO on 6 June 2017.

According to the OEC, the mica Russia exported in 2015 went mostly to the Ukraine (47 per cent), Belarus (37 per cent) and then Kazakhstan (3.8 per cent).²⁷⁷ That same year, Russia imported mica from India (38 per cent), Madagascar (26 per cent) and Finland (11 per cent).²⁷⁸ Given that production estimates are much higher than export figures, it can be assumed that most of the mica mined in Russia is for domestic manufacturing.

THE KEY PLAYERS

An engineering book on mining methods reports that underground mica mining in the Kola Peninsula started in 1933. More recently, the Kovdorsyuda mining company uses both open pit and underground mining techniques.²⁷⁹

Other mica deposits in this same region of the Kola Peninsula are mined by GMK Pechenganikel, Olkon, Sevredment, Apati, Kovdorsky GOK, and Kovdorslyuda. The Kovdorslyuda mining company supplies mica products for the electronics, construction, rubber, paint and varnish industries.²⁸⁰

Mica Russia is a mica supplier extracting mica from mines in Siberia.²⁸¹

No further information could be found identifying any key Russian mica players.

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

A 2014 US DOL report notes that Russia has advanced minimally in efforts to eliminate the worst forms of child labour.²⁸²

Child labour is rampant in Russia, and includes work on the street, agriculture and commercial sexual exploitation.²⁸³

STOP CHILD LABOUR INITIATIVES

According to the DOL, the Russian Government committed to "assessing and improving working conditions in its 2014 Employment Plan."²⁸⁴ The DOL considers child pornography as the most serious form of child labour in Russia.²⁸⁵ Various reports²⁸⁶ of child

MICA IMPORT/EXPORT IN RUSSIA (METRIC TONNES)

RUSSIA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	354	354	1,647	1,646
2014	574	573	2,467	2,467
2013	NA	921	NA	3,924
2012	NA	785	NA	3,055

277 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/rus/show/2525/2015/

278 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/import/rus/show/2525/2015/

279 <https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=derChZflYx7eFc2Vz-MczU-7Lr8&hl=en&sa=X&ved=0ahUKewiLrKWOnsLTAhXlzxQKHQ1XAmsQ6AEILjAB#v=onepage&q=russian%20mica%20production&f=false>

280 <https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=derChZflYx7eFc2Vz-MczU-7Lr8&hl=en&sa=X&ved=0ahUKewiLrKWOnsLTAhXlzxQKHQ1XAmsQ6AEILjAB#v=onepage&q=russian%20mica%20production&f=false>

281 http://www.companiess.com/mica_russia_info1536532.html

282 <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/russia>

283 <https://www.dol.gov/ilab/reports/child-labor/findings/2012TDA/russia.pdf>

284 <https://www.dol.gov/agencies/ilab/resources/reports/child-labor/russia>

285 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/countries/?q=Russia>

286 http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---declaration/documents/publication/wcms_decl_wp_7_en.pdf

labour exist,²⁸⁷ but nothing could be found linking children to mining in Russia. According to the Maplecroft Child Labour Index 2014, the risk of child labour in Russia has increased.²⁸⁸

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned that oil and gas extracting companies have a negative impact on the lifestyle of certain indigenous groups, including their children. This is due to deforestation and environmental pollution. Moreover, coal extraction and the production of asbestos also negatively impact children's health. Russia is urged to develop regulations to ensure business compliance with human rights, in particular children's rights. Companies should carry out assessments and address the impacts of their activities on human rights.

There are also many children living and working on the streets in Russia, which makes them vulnerable to abuse and other forms of exploitation.²⁸⁹

ANALYSIS

- Russia imports mica from India and Madagascar, both red flag countries.
- Russia production figures are likely to be underestimated, given that they do not appear to change from year to year, and that the figures of both the USGS and the BGS differ substantially.
- Russia is one of the countries producing sheet mica. However, in general Russia exports little of what it produces.
- Given Russia's vast mica deposits, it is a possibility that mica production could increase in the future.
- It is very difficult to find any information about child labour in Russia apart from child pornography, which is on the radar of both the DOL and the ILO.

287 <http://beta.globalmarch.org/worstformsreport/world/russian-federation.html>

288 <https://maplecroft.com/portfolio/new-analysis/2013/10/15/child-labour-risks-increase-china-and-russia-most-progress-shown-south-america-maplecroft-index/>

289 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fRUS%2fCO%2f4-5&Lang=en

16. SOUTH AFRICA

DETAILS OF MICA MINING

In South Africa,²⁹⁰ the areas around the town called Mica in the eastern Transvaal and the Kenhardt and Namaqualand districts of the northwestern Cape Province have been the only localities in which the production of muscovite mica of any importance have taken place.²⁹¹

According to dated data references (from 1989), the easily recoverable near-surface occurrences of muscovite in the eastern Transvaal have already been mined, and very little mica has been obtained from open workings. Although the number of mines has been reduced to only a few, their output is significant.

MICA PRODUCTION IN SOUTH AFRICA (METRIC TONNES)

SOUTH AFRICA	TMR	USGS	BGS ²⁹⁴	NATIONAL GOV. ²⁹⁵
2016	NA	NA	NA	NA
2015	29	NA	29	NA
2014	383	NA	383	83
2013	NA	NA	309	309
2012	NA	NA	400	400

MICA IMPORT/EXPORT IN SOUTH AFRICA (METRIC TONNES)

SOUTH AFRICA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	802	NA	721
2015	3,518	3,518	479	479
2014	12,923	12,923	862	861
2013	NA	7,002	(633) ²⁹⁶	663
2012	NA	297	(425)	426

290 The data collected for South Africa was collected during the month of March and April 2017.

291 J.J. Schoeman, 'Mica and vermiculite in South Africa', J.S. Afr. Inst. Min. Metall., vol 89, no 1., Jan 1989, pp 1-12.

294 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

295 SOUTH AFRICA'S MINERAL INDUSTRY 2014/2015, DEPARTMENT: MINERAL RESOURCES, REPUBLIC OF SOUTH AFRICA, Directorate: Mineral Economics.

296 Source: RSA, Commissioner for South African Revenue Service, 2004-2013

The open casting was followed by underground mining.²⁹² In the northwestern Cape Province, the mineral belt is 15 to 20 km wide and 450 km long. Only mica is in one of the mines (Noumas No.1). In other mines, feldspar and other minerals are also mined alongside mica.²⁹³

Notice that South Africa's mica exports are larger than the official production of mica in the country.

The export data does not give a clear picture: with the exception of Japan the exporting destinations change each year, and the export of mica exceeds production. For example, in 2016 South African exported mica to Lesotho (54 per cent) and Japan (25 per cent).²⁹⁷ In 2015, mica was mainly exported to Germany (26 per cent), Japan (24 per cent) and Tunisia (25 per cent).²⁹⁸ In 2014, it went to Hong Kong (which re-exported it to Japan), Japan directly and Mozambique.²⁹⁹

Why do export figures exceed production figures? For example, in 2014, the South African government reported that only 83 metric tonnes of mica were produced that year, while the UN Comtrade export figures note that almost 13,000 metric tonnes of mica were exported. This is a red flag, indicating the possible practice of illegal mining, probably in the form of artisanal and small-scale mining. Artisanal mining is associated with various socio-economic problems such as child labour, poor health, security issues, safety conditions and lack of health facilities.

THE KEY PLAYERS

According to a dated scientific journal (from 1986), ground mica was produced mainly by two companies. The Mica area (mined by Gelletich Mining Industries) contributed 92.3 per cent of the total mass, while the remainder was produced by the Steinkopf Reserve (mined by Garieb Minerals).³⁰⁰ No additional companies in the mica industry in South Africa could be identified.

HUMAN RIGHTS RISKS

Gelletich Mining Industries, which is responsible for much of the mica production in South Africa, was in the past involved in a land grabbing case that went to court, although this case was not related to mica.³⁰¹

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL's List of Goods Produced by Child Labour has not listed South Africa as one of the countries practicing child labour in any of their industries.³⁰²

The most recent list of UNICEF child labour statistics does not mention the occurrence of child labour in South Africa.³⁰³

However, the US DOL reports that children in South Africa are engaged in child labour, including in agriculture and domestic work. The DOL concludes that government social programs to address child labour do not match the scope of the problem, and barriers to access to education remain. In addition, the government does not collect data on child labour or make criminal enforcement data publicly available.³⁰⁴ The DOL does not mention mining as one of the activities that children are engaged in.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC has concerns about the activities of businesses, in particular in the extractive industries, and the negative impacts they have on children's rights. This is due to environmental pollution and the exploitation of child labour. The Committee recommends that South Africa establishes regulations for the business sector regarding human rights law and environmental standards.

The Committee is concerned about the persistence of child labour, particularly in the agricultural sector, and the practice of the worst forms of child labour. The Committee urges South Africa to ensure effective implementation of laws and policies regarding child labour.³⁰⁵

ANALYSIS

- The fact that export figures are so much higher than production figures is a red flag, indicating the practice of illegal mining. This often occurs in the form of artisanal and small-scale mining.
- Artisanal mining is associated with various socio-economic problems, including child labour. Data on child labour in South Africa is not available; however the DOL reports the presence of child labour in the country. The involvement of children in mica mining in South Africa has not yet been investigated.

292 J.J. Schoeman, 'Mica and vermiculite in South Africa', J.S. Afr. Inst. Min. Metall., vol 89, no 1., Jan 1989, pp 1-12.

293 J.J. Schoeman, 'Mica and vermiculite in South Africa', J.S. Afr. Inst. Min. Metall., vol 89, no 1., Jan 1989, pp 1-12.

297 ITC Trade Statistics, based on UN Comtrade statistics, http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx?nvpm=1|710|||2525||4|1|1|2|2|1|2|1|1 (14 March 2017).

298 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/zaf/show/2525/2015/

299 <https://comtrade.un.org/data/>

300 JOURNAL OF THE SOUTH AFRICAN INSTITUTE OF MINING AND METALLURGY, JANUARY 1989, p.3. <https://www.saimm.co.za/Journal/v089n01p001.pdf> (14 March 2017).

301 <http://www.saflii.org/za/cases/ZAGPPHC/2016/810.html>

302 US Department of Labor, <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

303 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys. <http://data.unicef.org/topic/child-protection/child-labour/>

304 US Department of Labor, '2015 FINDINGS ON THE WORST FORMS OF CHILD LABOR', <https://www.dol.gov/sites/default/files/images/ilab/child-labor/SouthAfrica.pdf>

305 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fZAF%2fCO%2f2&Lang=en

17. SPAIN

DETAILS OF MICA MINING

MICA PRODUCTION IN SPAIN (METRIC TONNES)

SPAIN	TMR	USGS	BGS ³⁰⁶	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	4,000	NA	4,049	NA
2014	4,049	NA	4,049	NA
2013	NA	NA	3,462	NA
2012	NA	NA	3,518	NA

MICA IMPORT/EXPORT IN SPAIN (METRIC TONNES)

SPAIN EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	4,048	NA	1,830
2015	3,557	3,557	1,839	1,839
2014	3,030	3,030	1,819	1,818
2013	NA	2,592	NA	1,538
2012	NA	3,820	NA	1,016

According to the OEC database, most of 2015's mica export went to the UK (26 per cent), and subsequently to Italy (23 per cent), Mexico (14 per cent), France (10 per cent), and Brazil (6 per cent).

³⁰⁶ <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

THE KEY PLAYERS

Andino Minerals SRL, which operates in Cordoba, and Arce Isidora Casildo, which operates in San Luis, produce mica in Spain. This would require further research if relevant.

HUMAN RIGHTS RISKS

Not found.

IMPACT ON CHILDREN

N/A

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

N/A

STOP CHILD LABOUR INITIATIVES

N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD

There are no comments on child rights issues or child labour in the private sector in Spain.³⁰⁷

³⁰⁷ http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fESP%2fCO%2f3-4&Lang=en

18. SRI LANKA

DETAILS OF MICA MINING

The most common type of mica mined in Sri Lanka³⁰⁸ is phlogopite.³⁰⁹ Muscovite also occurs in certain areas (such as Kebithigollewa), but is rare in comparison. Other principal producers of phlogopite scrap, flake and powders are Russia, Canada, Madagascar and Finland. All other mica-producing countries produce mainly muscovite.³¹⁰

Mica mining in the central part of Sri Lanka (in Mailapitiya in the Kandy district) took place before 1948 during the British regime. Investigations carried out in the area showed the existence of economically interesting phlogopite mica mineralisation.³¹¹

In the past, phlogopite mica was mined superficially. In the 1980s, small-scale mica mining took place in the Kandy district, in Naula and Madugoda as well as in Dutuwewa. Exports were confined to scrap grade mica.³¹²

One of the underground phlogopite mines is at Wariyapola outside of Matale. Phlogopite mica deposits occur at Kebithigollawa, Medawachchiya, Rathnapura, Matale, Dambulla, Ambilipitiya, Kolonne, Dehiaththakandiya, Naula and Mailapitiya.³¹³

The most recent production amounts are estimates. Sri Lanka is a relatively small producer of mica. Note the production levels compared with the export levels.

MICA PRODUCTION IN SRI LANKA (METRIC TONNES)

SRI LANKA	TMR	USGS	BGS	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	1,500	1,500 ^e	1,500	NA
2014	1,500	1,500 ^e	1,500	NA
2013	NA	1,493	1,493	NA
2012	NA	1,260	1,260	NA

e Estimated, scrap mica.

It is a red flag that the production of mica in 2014 was estimated at 1,500 metric tonnes, while the export was almost twice as much. In 2015 the production and export level are almost the same, suggesting that either all mica mined was for export, or that the reported production figures do not reflect the real amount mined (given that mica is also used domestically). One source says that feldspar, mica and dolomite are used for domestic industries.³¹⁴

Sri Lankan mica is reportedly exported to Japan (65 per cent), China (15 per cent), Germany (13 per cent), Belgium-Luxembourg (3.3 per cent), South Korea (2.1 per cent) and India (1.9 per cent).³¹⁵

THE KEY PLAYERS

The following companies have been determined to be involved in the Sri Lankan mica mining industry.³¹⁶ No further information could be found.

- Mica Lanka, Kandy, Sri Lanka
- Mirama Minerals (ilmenite, rutile, zircon, garnet, quartz and mica)³¹⁷
- Mica Minerals Mica Factory (phlogopite)
- Rinara, Moratuwa, Sri Lanka
- Global Mica & Granite (granite, mica, rare gems)
- New Hari Impex (phlogopite, mica)
- Mica Minerals Exports (mica scrap A and B, mica ore)
- Imexma Minerals Private Limited (dolomite, feldspar, mica, quartz, kaolin)
- The Industry Management Enterprises (Pvt) Ltd (mica, phlogopite, vein quartz)
- Matale Minerals Concern (phlogopite, block mica, scrap mica, mineral mica)
- Latha Enterprises (quartz, mica)

MICA EXPORT/IMPORT IN SRI LANKA (METRIC TONNES)

SRI LANKA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	1,451	NA	0
2015	1,544	1,544	197	197
2014	2,805	2,805	210	209
2013	NA	0	NA	0
2012	NA	2,386	NA	91

308 Data for Sri Lanka was collected in March and April 2017.

309 Phlogopite Mica Mineralization in the Central Part of Sri Lanka and Identify Suitable Areas for Mining, <http://dl.lib.mrt.ac.lk/handle/123/11167>

310 Industrial Minerals Review 2014, Mining Engineering, 1 July 2015.

311 Phlogopite Mica Mineralization in the Central Part of Sri Lanka and Identify Suitable Areas for Mining, <http://dl.lib.mrt.ac.lk/handle/123/11167>

312 Mineral resources of Sri Lanka, Science Education series No 17, http://thakshana.nsf.ac.lk/slstic/NA-110/NA%20_110%20_%20i.pdf

313 GEOLOGY & MINERAL RESOURCES OF SRI LANKA, <https://www.slideshare.net/indirankaralasingham/geology-mineral-resources-of-srilanka>

314 <http://www.ifs.ac.lk/pdf/lectures/geo/Economic%20Geology%20of%20Sri%20Lanka.pdf>

315 OEC database, http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/lka/show/2525/2015/

316 http://www.listcompany.org/Mica_Lanka_Info.html

317 <http://miramaminerals.com>

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL's List of Goods Produced by Child Labour has not listed Sri Lanka as a country practicing child labour in any of their industries.³¹⁸ However, child labour is a known phenomenon in Sri Lanka, with the Sri Lanka Guardian reporting about 100,000 child workers in 2016. Mining is one of the sectors listed as using child labour.³¹⁹ Reports note that gem mines, including sapphire and ruby mines, are notorious for the use of child labour. Children sometimes work as deep as 10-15 meters underground in unstable shafts.³²⁰ Children also reportedly work in fireworks and match-stick manufacturing, quarrying, fisheries, salt production and the construction sector among others.³²¹

The most recent official data can be found in the Child Activity Survey 2016, launched by the government's Department of Census and Statistics in February of 2017. According to this survey, incidents of child labour have shown a significant decrease over the years. The total number of children in the age group between 5 and 17 years in Sri Lanka was 4.6 million in 2016. Only about 2.3 per cent of these children were found to be engaged in some kind of economic activity. Child labour was one percent of the total child population (43,714 children), and hazardous forms of child labour was as low as 0.9 percent (39,007 children).³²²

STOP CHILD LABOUR INITIATIVES

No initiatives could be found calling for an end child labour in mica mining in Sri Lanka. In 2013, there was a mention of government initiatives to get children working in gem mines back to school. These programmes took place in locations with mines in the district of Ratnapur.³²³

Child labour of any kind is illegal in Sri Lanka, and the country is a signatory to ILO Convention 182 on the Worst Forms of Child Labour and ILO Convention 138 on the Minimum Age for Admission to Employment.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned about the possible negative impact on the safety, well-being and development of children in several business and industries, including tea plantations and textiles.

The Committee urges Sri Lanka to establish policies and regulatory frameworks for businesses to ensure that they respect child rights and safeguard their well-being.

The Committee is concerned that many children are working and not attending school. Moreover, the Committee regrets the absence of legislation to prohibit hazardous work for children.³²⁴

ANALYSIS

- The fact that export figures in 2014 were higher than the official mining production figures is a red flag. This usually indicates the presence of illegal mining in the form of artisanal and small-scale mining. In the case of Sri Lanka, the presence of illegal mining has not been confirmed by research.
- Child labour is officially one percent of the total child population (43,714 children), and hazardous forms of child labour about 0.9 percent (39,007 children). It is known that children are working in gem mines; there are however no reports on child labour in mica mining. This needs further investigation.

19. SUDAN

DETAILS OF MICA MINING

In July 2011, the autonomous region of South Sudan became an independent country named the Republic of South Sudan. In this country profile we focus on Sudan³²⁵, the northern part of the country.

The mining industry in Sudan is mostly driven by the extraction of fossil fuels, and petroleum makes a substantial contribution to the country's economy. Between 2009 and 2012, cement and gold production

MICA PRODUCTION IN SUDAN (METRIC TONNES)

SUDAN	TMR	USGS	BGS ³³¹	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	170	NA	0	NA
2014	165	NA	0	NA
2013	NA	500	500	NA
2012	NA	324	324	NA

MICA IMPORT/EXPORT IN SUDAN (METRIC TONNES)

SUDAN EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	0	NA	48	32
2014	0	NA	66	NA
2013	NA	NA	NA	NA
2012	NA	189	NA	39

318 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

319 Sri Lanka Guardian, '100,000 child workers in Sri Lanka', July 3, 2016, <https://www.slguardian.org/2016/07/100000-child-workers-in-sri-lanka/>

320 UCA News.com, 'Education key to ending child labor in Sri Lanka's gem mines', 18 October 2013, <http://www.ucanews.com/news/education-key-to-ending-child-labor-in-sri-lankas-gem-mines/69505>

321 UNICEF, Sri Lanka's roadmap 2016 on the worst forms of child labour, 2010, https://www.unicef.org/srilanka/2003_UNICEF_Roadmap_wcms_...

322 'SL On course to eradicate Child Labour', Daily News, 28 February 2017, <http://dailynews.lk/2017/02/28/features/108924/sl-course-eradicate-child-labour>

323 UCA News.com, 'Education key to ending child labor in Sri Lanka's gem mines', 18 October 2013, <http://www.ucanews.com/news/education-key-to-ending-child-labor-in-sri-lankas-gem-mines/69505>

324 http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fLKA%2fCO%2f3-4&Lang=en

325 Data collected for Sudan during the month of April 2017.

331 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

became more important for the Sudanese economy. In recent years (2009-2013), the country also produced chromite, feldspar, fluorite, gypsum, kaolin, laterite, manganese ore, marble, mica, quartz, salt, silver, steel and talc.³²⁶

In the past, between 1968 and 1972, there was some commercial mining of mica in Ash Shamali Province. The Sudanese Mining Corporation produced about 1,000 tonnes of scrap mica in 1978, but output was thereafter reduced to 400 metric tonnes annually. The same source mentions the establishment of a mica project in El-Shriek in the River Nile State, with a planned production of 200 metric tonnes per day.³²⁷

South Sudan's proven crude oil reserves³²⁸ are the sixth largest in Africa. However, the country is not a significant producer or consumer of minerals or mineral fuels. In 2014, only a fraction of the country had been geologically surveyed,³²⁹ and most exploration was for gold. Gold was produced by an estimated 60,000 artisanal miners in the Nakanak mines in eastern South Sudan.³³⁰ Mica is not mentioned in this context.

Pre-2012 mica production figures are 378 metric tonnes for 2011, 10 metric tonnes for 2010 and 100 metric tonnes for 2009.³³²

In 2013, 100 per cent of Sudan's mica export went to China. In 2012, 83 per cent went to China (the remaining 17 per cent was exported to Saudi Arabia). There is no data available for other years.³³³

THE KEY PLAYERS

The Sudanese Mining Corporation is 100 per cent owned by the Government of Sudan. The company operates the mines located at Sheriek, which have an annual capacity of 1,800 metric tonnes per year. This indicates that the annual capacity is much higher than the current export of mica, which was for example 500 metric tonnes in 2013.³³⁴

The Sheriek Mica Mines Company, also known as the Sheriek Mica Project, can be contacted through its parent company, the Sudanese Mining Corporation.³³⁵ No further information about companies involved in mica mining in Sudan could be found.

HUMAN RIGHTS RISKS

Gold is produced by about 500,000 artisanal miners in Sudan, which means that artisanal miners account for most of the country's gold production. In 2013, reported gold exports decreased in comparison to 2012 (46,133 kg in 2012). This reduction in exports can be partially attributed to civil unrest and pit collapses. In 2012, artisanal miners in the Jebel Amir district in the state of North Darfur produced about 14,000 kg of gold. In January and February 2013, hostilities between tribal warlords over control of the mines resulted in more than 400 deaths.

IMPACT ON CHILDREN

In April 2012, South Sudan and Sudan engaged in armed conflict in Abyei. In March 2017, a report by the UN Secretary-General detailed the deep impact of

armed conflict on children in the Sudanese states of Darfur, South Kordofan, Blue Nile and Abyei. The report describes how boys and girls continued to be victims of grave violations committed by all parties to the conflict, including killing and maiming, sexual violence, and attacks on schools and hospitals.³³⁶

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

One presentation about artisanal mining in Sudan mentions one million miners working in gold mining and extraction. The Sudan government reports that child labour in these mines has been reduced to less than 1 per cent; however, even if this is government report is true, this would still mean about 10,000 children working in gold mines.³³⁷ No reports could be found linking child labour to the Sudanese mica mines.

The US DOI's List of Goods Produced by Child Labour has listed Sudan as one of the countries practicing child labour in gold mining.³³⁸

The most recent list of UNICEF child labour statistics indicates that 25 per cent of Sudanese children are engaged in child labour.³³⁹

STOP CHILD LABOUR INITIATIVES

No initiatives to end child labour in mica mining in the country were found.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations about the private sector are available. The CRC is concerned about widespread child labour in Sudan. Moreover, due to the lack of legislation, children are not prohibited from engaging in hazardous work.³⁴⁰

ANALYSIS

- Child labour is rampant in Sudan.
- There are no reports that clearly indicate the presence of artisanal mica mining in Sudan. However, there are abundant examples of children working in artisanal gold mines. The presence of artisanal mica mining and the possibility that children are working in these mines is realistic, and should be further investigated. The available statistics indicate that mica production increased between 2009 and 2013. Even though Sudan is considered a small producer, the official figures could very well be less than what is actually produced, given the history of artisanal gold mining in the country.
- The armed conflicts in Sudan have had severe impacts on children and children's rights.

326 USGS, 2013 Minerals Yearbook Sudan, Published June 2015, <<https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-su.pdf>>

327 Sudan Mineral and Mining Sector, Investment and Business guide, 2013 <https://books.google.nl/books?id=OGf1WFTZScYC&pg=PA53&pg=PA53&dq=artisanal+mica+sudan&source=bl&ots=j3fxipvkpD&sig=xBOHjEgD2EeKOCGYBY2iC31TDcc&hl=nl&sa=X&ved=0ahUKEwjLh4bH38rTAhVIVAKHYnqA2AQ6AEIXTAI#v=onepage&q=artisanal%20mica%20sudan&f=false>

328 There were an estimated 3.5 billion barrels at the end of 2014. USGS, '2014 Minerals Yearbook South Sudan', published November 2016. <<https://minerals.usgs.gov/minerals/pubs/country/2014/myb3-2014-od.pdf>>.

329 The Ministry of Petroleum and Mining had identified mineral resources that included copper, gold, iron ore, lead, manganese and zinc. Large dolomite, marble and uranium deposits were also identified in the country.

330 USGS, '2014 Minerals Yearbook South Sudan', published November 2016. <<https://minerals.usgs.gov/minerals/pubs/country/2014/myb3-2014-od.pdf>>.

332 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-su.pdf> <<https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-su.pdf>>

333 http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/sdn/show/2525/2012/

334 USGS, 2012 Minerals Yearbook Sudan, published in March 2014, <<https://minerals.usgs.gov/minerals/pubs/country/2012/myb3-2012-su.pdf>>.

335 <https://panjiva.com/SHEREIK-MICA-MINES-COMPANY-c-o-SUDANESE-MINING-CORPORATION-a-k-a-SHERIEK-MICA-PROJECT-c-o-SUDANESE-MINING-CORPORATION/3989942>

336 United Nations, Security Council, 'Report of the Secretary-General on children and armed conflict in the Sudan', 6 March 2017, S/2017/191, <http://www.un.org/ga/search/view_doc.asp?symbol=S/2017/191&Lang=E&Area=UNDOC>

337 Artisanal Mining in Sudan - Opportunities, Challenges and Impacts, Mohamed Suliman Ibrahim, Geologist, Ministry of Minerals, Republic of the Sudan, 5 January 2016, <http://unctad.org/meetings/es/Presentation/17OILGASMINE%20Mohamed%20Sulaiman%20Ibrahim%20S4.pdf>

338 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

339 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys (ENSOMD 2012-2013), <http://data.unicef.org/topic/child-protection/child-labour/>

340 http://tbineternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CRC%2fC%2fSDN%2fCO%2f3-4&Lang=en

20. TAIWAN

There are few mineral resources left on the island of Taiwan.³⁴¹ According to the USGS, recent outputs from the mining industry have had little effect on the country's economy, which is mostly oriented towards exports, including electronic exports.³⁴²

Taiwan's mining consists predominantly of marble, limestone and serpentine, as well as dolomite, silicon, talc, Taiwan jade, rose stone, blue chalcedony and mica in more modest volumes. There has been a production increase in mica in recent years.³⁴³

The Hsiang-Yang mica deposit is located in the north-west of Litao Village in Taitung County, Taiwan. It is the only mine in the country that produces powder mica, and the total reserve is estimated at 30 million tonnes.³⁴⁴

DETAILS OF MICA MINING

No trade data could be found in the Comtrade data-banks for Taiwan, so only the TMR data can be used. There is also no way of knowing where Taiwan imports its mica from.

Taiwan is a rather small exporter of mica in comparison with the other countries investigated. This suggests that the bulk of the mica mined in Taiwan is used domestically. Also, according to TMR the import of mica is fairly significant. This suggests that national production is used for local industries, and that national demand is quite possibly higher than national production.

Taiwan's manufacturing sector is driven by the electronics industry, and includes the manufacturing of

computers, electronic components and telecommunications gadgets.³⁴⁶

THE KEY PLAYERS

- Tachien mine, Chingshuichi, Chochi, Hualien Co., Taiwan Province
- Yuantung mine, Silin, Pinglin, Hualien Co., Taiwan Province
- Tungao talc belt, Tungao (Tungyuehtsun) Nanao, Yilan Co. (Ilan Co) Taiwan Province
- Sunshine Mining Co.

No further information could be found concerning mica industry players in Taiwan.

HUMAN RIGHTS RISKS

According to the US Department of State, the principal human rights problems reported in Taiwan in 2016 were the exploitation of foreign workers (including foreign crew members on long-haul fishing vessels and household caregivers), domestic violence, and official corruption.³⁴⁷ The people most vulnerable to exploitation in Taiwan are domestic workers and caregivers, because they most often reside with their employers and are often women. A US Department of State report highlights that human trafficking remains a problem. Most trafficking victims are migrant workers from Indonesia, the Philippines, Thailand and Vietnam, and to a lesser extent individuals from China and Cambodia. Taiwanese authorities identified 278 victims

MICA PRODUCTION IN TAIWAN (METRIC TONNES)

TAIWAN	TMR	USGS	BGS ³⁴⁵	NATIONAL GOV.
2016	NA	NA	NA	NA
2015	5,020	9,000	8,267	NA
2014	9,000	9,000	5,016	NA
2013	NA	8,931	8,931	NA
2012	NA	6,844	6,844	NA

TAIWAN MICA IMPORT/EXPORT FROM TMR (METRIC TONNES)

TAIWAN EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	NA	NA	NA
2015	393	NA	6,086	NA
2014	495	NA	5,056	NA
2013	NA	NA	NA	NA
2012	NA	NA	NA	NA

341 Data collected for Taiwan was during the month of April 2017.

342 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-tw.pdf>

343 <http://www.taipeitimes.com/News/editorials/archives/2017/03/31/2003667783>

344 http://www.academia.edu/13051430/The_Mineral_Distribution_of_Hsiang-Yang_Mica_Taiwan

345 <https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed>

346 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-tw.pdf>

347 U.S. Department of State, "Country Reports on Human Rights Practices for 2016", <https://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/#wrapper> <https://www.state.gov/documents/organization/265586.pdf>

of human trafficking in 2016 (197 sex trafficking victims and 81 forced labor victims), down from 292 in 2014.³⁴⁸

Foxconn is the biggest Taiwanese company,³⁴⁹ and is known for labour abuse in its Chinese factories.³⁵⁰

REPORTED CHILDREN'S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOL's List of Goods Produced by Child Labour has not listed Taiwan as one of the countries practising child labour in any of their industries.³⁵¹

The most recent list of UNICEF child labour statistics does not include Taiwan.³⁵²

STOP CHILD LABOUR INITIATIVES

Child labour in mica mining is not reported, and there appear to be no initiatives in the country to end child labour in the mica mining industry.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

There is no information available from the CRC, and no CRC recommendations are available.³⁵³

ANALYSIS

- Taiwan is a small exporter of mica in the world market. The country imports more mica than it exports. It also produces mica that is used to manufacture products domestically; these products are most likely destined for export.
- Taiwan is a very large electronics producer, and the home of several electronics giants.
- Human rights violations are not mentioned in the context of mining or activities directly related to mining in Taiwan.
- Child labour is not reported in Taiwan.
- There is probably no connection to possible children's rights violations related to mica mining in Taiwan from domestically-mined mica. However, Taiwan imports mica, and the source of these imports is not known due to the dearth of UN Comtrade data on Taiwan.



348 Taiwan News, "U.S. report accuses Taiwan of human rights violations", 3 May 2017, <http://www.taiwannews.com.tw/en/news/3109021>

349 <http://www.scmp.com/article/727143/foxconn-factories-are-labour-camps-report>

350 <https://www.theguardian.com/technology/2011/apr/30/apple-chinese-factory-workers-suicides-humiliation>

351 <https://www.dol.gov/ilab/reports/child-labor/list-of-goods/>

352 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys.

<http://data.unicef.org/topic/child-protection/child-labour/>

353 <https://www.universiteitleiden.nl/en/news/2017/06/children's-rights-in-taiwan>

21. UNITED STATES

DETAILS OF MICA MINING

A 1929 report from the US³⁵⁴ Ministry of the Interior, which was based on data collected over the 20 years prior to the publication, lists mica deposits across 28 US states, or in the following regions: the eastern Appalachian region from Alabama to New York and the New England states; northern Wisconsin, Michigan and Minnesota; the region including corners of Minnesota and Iowa and part of South Dakota; south-eastern Missouri; the Black Hills of South Dakota; the Rocky Mountain region from New Mexico to Montana; and many smaller and more or less isolated areas in nearly all of the western states from Texas to California and up to Washington.³⁵⁵

However, according to the USGS, scrap and flake mica production sites or mines are predominantly located in Georgia, North Carolina, South Dakota and Virginia.³⁵⁶ The report also notes that in 2015, the largest quantity of mica was produced in Georgia.³⁵⁷ According to the USGS, scrap mica was recovered from mica and sericite schist, and as a byproduct of feldspar, industrial sand beneficiation and kaolin. "Limited resources of sheet mica are available in the United States, and domestic resources are uneconomic because of the high cost of hand labour required to mine and process sheet mica from pegmatites."³⁵⁸

A minor amount of sheet mica is mined in North Carolina, but according to the USGS, imports are necessary to meet the demand for sheet mica in the US.³⁵⁹ "Domestic production and consumption of scrap and flake mica were estimated to have decreased in 2015. Apparent consumption of scrap and flake mica decreased slightly because the 10% decrease in production was offset by the estimated 7% increase in imports. Apparent consumption of sheet mica increased slightly in 2015. No environmental concerns are associated with the manufacture and use of mica products. Future supplies of mica for U.S. consumption were expected to come increasingly from imports, primarily from Brazil, Canada, China, and India,"³⁶⁰ according to the USGS.

According to the 2016 USGS, mica can be used to replace other minerals. For example titanium dioxide coated mica flakes and fish-scale extracts can be used as substitutes in pigments,³⁶¹ and group mica can be used as a filler material and a substitute for diatomite.³⁶² Given that this mining is taking place in the US, operations are assumed to be industrial, legal and run by businesses (even if the businesses are family-owned).

According to the USGS for 2016, the US imported 39 per cent of its natural mica (scrap and flake) from Canada, China, Finland and India.³⁶⁴

THE KEY PLAYERS

Given that the country is so big, it is not possible to provide an overview of the biggest US players. However the US Bureau of Mines has a records department with information concerning mica production in section 70.3.3.³⁶⁵

The Asheville-Schoonmaker Mica Company,³⁶⁶ which is mentioned in the TMR report, merged with Reliance Mica in 2014. The firm is based in Virginia, and operates as a supplier of mica and mica plate products that are used as decorative sheets and for dielectric and/or high thermal resistance.

"Eight companies in the United States produced scrap and flake mica during 2010. The same companies operated nine grinding plants, six dry ground and three wet ground facilities. The three wet grinders were BASF Corp. Hartwell, GA; Georgia Industrial Minerals,

MICA PRODUCTION IN THE US (METRIC TONNES)

USA	TMR	USGS ³⁶³	BGS
2016	NA	NA	NA
2015	32,600	41,500	41,500
2014	46,000	41,500	46,000
2013	NA	50,000	48,100
2012	NA	47,500	47,500

MICA IMPORT/EXPORT IN THE US (METRIC TONNES)

USA EX/IM	TMR EXPORT	UN EXPORT	TMR IMPORT	UN IMPORT
2016	NA	6,459	NA	31,572
2015	7,380	7,676	33,200	33,318
2014	8,727	8,726	33,543	33,542
2013	NA	6,705	NA	30,936
2012	NA	6,506	NA	27,393

354 Data collected for the USA was done so during the months of March and June 2017.

355 D. Sterrett, "Mica Deposits of the United States," Department of the Interior (1923) <https://pubs.usgs.gov/bul/0740/report.pdf> (15 May 2017)

356 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.110)

357 <https://minerals.usgs.gov/minerals/pubs/commodity/mica/myb1-2015-mica.pdf> (p.2)

358 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.111)

363 <https://minerals.usgs.gov/minerals/pubs/country/2013/myb3-2013-ar.pdf>

359 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.110)

360 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.111)

361 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.37)

362 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p. 62)

364 <https://minerals.usgs.gov/minerals/pubs/mcs/2016/mcs2016.pdf> (p.110)

365 <https://www.archives.gov/research/guide-fed-records/groups/070.html> Muscovite powder is widely used as a filler in non-asbestos acoustic products for the treatment of automobile underbodies and noise protection systems due to its of functional morphological and surface characteristics

366 <https://www.ashevilemica.com/about>

Deepstep, GA; and Kings Mountain Mining, Kings Mountain, NC, a division of Imerys SA. U.S. Gypsum, Spruce Pine, NC also dry grinds mica, mainly for its internal use as a key ingredient in gypsum wallboard joint compound.”³⁶⁷

HUMAN RIGHTS RISKS

There is no evidence of possible human rights violation risks, and no detailed information concerning environmental risks.

IMPACT ON CHILDREN

There was nothing found on the possible impact of human rights violations on children, or on children’s rights.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

There is no evidence of the presence of child labour in mica mining in the country.

STOP CHILD LABOUR INITIATIVES

N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The US has not ratified the Convention on the Rights of the Child.



367 <https://insurancenet.com/oarticle/Industrial-Minerals-Review-2013-a-546863>

