Risk-assessments for products within five categories: Play and sports equipment

A report for Direktoratet for forvaltning og IKT (DIFI) by Swedwatch

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Introduction

Swedwatch has carried out risk-assessments on thirty-four products within five product categories on behalf of Direktoratet for forvaltning og IKT (DIFI). The risk-assessment reports aim to provide information on potential adverse impacts on labour rights and human rights in the supply chains of the selected products. The reports will guide contracting authorities on the importance of social considerations in their purchasing practices and when such criteria should be applied. The risk-assessments will also improve the readers' understanding of what to look for when monitoring supplier compliance.

It is important to note that the risk-assessments do not aim to scrutinise or describe the supply chain of any particular brand or supplier. The purpose is to give a general understanding of the potential risks linked to the product in general.

Each product is described based on components and materials used in the product. The general supply chain is presented in a table, along with a narrative explanatory paragraph. The supply chain table is divided into three sections; assembly, component and raw material, and provides an overview of most relevant countries.

General risks are outlined and those which are categorised as most adverse risks for each step of the supply chain are summarised in an introductory table in order to provide an overview. The grading at the bottom of the risk-matrix indicates a combination of the *severity* and *likelihood* of the risk and aims to provide guidance on where main risks are located in the supply chain. For example, when a product is assembled in both a high-risk and a low-risk context to more or less the same extent, the risk will be graded lower than if the product had been predominantly assembled in a high-risk environment. This also means that even if a number of potential severe risks are listed in the column, the risk may still be considered low if it is likely that the production mostly takes place under safe and sound processes in a low-risk environment.

The grading includes the following steps:

Very low risk	Low risk	Medium-high risk	High risk	Very high risk

Method and data

The data used for the risk-assessments comes mainly from reports, articles, films and academic research. Suppliers, and to a smaller, degree industry organisations/initiatives, have also been interviewed to provide input to the understanding of the supply chains. Trading data has been used for the mapping of the supply chains, as transparency and traceability is often limited. Therefore, the supply chain data, especially on a component and raw material level, partly presents the likelihood of a certain producing country being included in the supply chain. The supply chain data can therefore not be viewed as exact for every single product procured by Norwegian contracting authorities, but as a general estimate.

The report was written October to December 2017.

Play & sports equipment

Product	Assembly	Component	Raw material
Play and sports equipment	**High risk**	**High risk**	**High risk**
Swings and slides	**Low risk**	**Medium-high risk**	**High risk**
Mats	**Medium-high risk**	**Medium-high risk**	**Medium-high rsik**
Balls	**High risk**	**High risk**	**High risk**
Skipping ropes	**Medium-high risk**	**Medium-high risk**	**High risk**
Rackets	**High risk**	**High risk**	**High risk**
Markers and crayons	**High risk**	**High risk**	**High risk**
Toys	**High risk**	**High risk**	**High risk**

Play and sports equipment span over a large variety of products, used for both indoor and outdoor activities. In both the play and sport equipment industries, a majority of large-scale production is located in emerging or developing countries. Light-weight items are primarily imported from Asian countries, whereas larger playground equipment such as slides and swings are usually produced closer to the market. For this reason, risks connected to this category vary to a large extent depending on the specific product in question. However, raw materials and components can come from a vast number of countries globally, including high-risk countries.

Risks of human rights abuse and environmental impact are present from raw material extraction to the assembly of the product. Many reports on toy and sports manufacturing industries in Asian countries illustrate poor working conditions with low wages, excessive overtime and hazardous working environments with exposure to heat and chemicals. Migrant workers as well as underaged workers are at risk of being exploited.[1] Many of the products used include different types of plastic material, which brings health and safety concerns as well as risks of pollution.

This risk-assessment include:

- Swings and slides
- Mats
- Balls
- Rackets
- Skipping ropes
- Markers and crayons
- Toys

Industry and sector Initiatives

International Council of Toy Industries (ICTI)

The International Council of Toy Industries is an association that works to promote the global toy industry and toward a fairer industry as regards to social responsibility and environmental issues. It

[1] Institute for Global Labour and Human Rights, Dirty Toys made in China, 2015

supports the implementation of aaplicable standards and is a platform for discussion on these issues.[2]

World Federation of the Sporting Goods Industry (WFSGI)

The World Federation of the Sporting Goods Industry is an independent association which aims to support and promote the sport goods industry and to increase participation in sports globally. It is recognized by the International Olympic Committee (IOC) as representing the industry as a whole within the Olympic Movement. WFSGI also works to inform members of relevant laws and regulations (on e.g. working conditions or product safety).[3]

Toy Industries of Europe

The Toy Industries of Europe (TIE) is a trade association of member companies involved in the industry. Its focus is to promote the industry and to do so by, for example, acting as a platform for discussion and by providing members with information and guidelines on challenges within the industry.[4]

BSCI

BSCI was launched in 2003 at the initiative of the Foreign Trade Association (FTA). The initiative works toward the integration by purchasing companies of the BSCI Code of Conduct into their business practices. BSCI provides support, auditing tools and a database for its members.[5]

Certifications

Forest Stewardship Council (FSC)

Forest Stewardship Council is an international member organisation, working for sustainable forestry and providing a certification for timber, paper and wood products.[6]

[2] International Council of Toy Industries (ICTI), Retrieved 2017-11-24
[3] World Federation of the Sporting Goods Industry (WFSGI)
[4] Toy Industries of Europe, Retrieved 2017-11-24
[5] Business Social Compliance Initiative, BSCI-intl.org
[6] Forest Stewardship Council

Swings and slides

Summary of the most severe risks

Assembly	Components	Raw materials
Lack of union rights Unpaid overtime Low wages	**Steel, nuts and bolts, tyres** Forced labour Lack of union rights Poor health and safety Low wages Excessive overtime Environmental pollution Exploitation of migrant workers	**Oil, wood, rubber, iron ore** Forced labour Low wages Lack of union rights Environmental impacts Illegal logging Poor health and safety Exposure to pesticides Violation of indigenous peoples' rights Child labour Forced labour People trafficking Exploitation of migrant workers Sexual abuse
Low risk	**Medium-high risk**	**High risk**

The products

Swings are typically comprised of a frame which may be pressure-treated softwood, hardwood, steel or plastic; ropes or chains made from polyethylene, polypropylene, steel or plastic-coated steel; nuts, bolts, rings and other fastenings, made from steel; and the seat which may be plastic, plastic rope (for a bird's nest swing), rubber or a tyre.[7]

Slides are typically made from pressure-treated softwood, hardwood, steel or plastic, and nuts, bolts and other fastenings are usually made from steel.[8]

The supply chain

Norway imports the majority (76%) of its playground equipment from Western Europe, primarily from Germany and the Netherlands.[9] A minority (13%) comes from Eastern Europe. If the swings or slides are made of wood, and are made in western Europe, it is likely that the timber also comes from EU countries or Norway.[10] If made in eastern Europe however, the wood may also come from Russia or Belarus.[11] For steel slides and swings, it is likely that the components come from Brazil or

[7] Analysis of swings available to buy via www.amazon.co.uk and www.toyrus.com
[8] Analysis of swings available to buy via www.amazon.co.uk and www.toyrus.com
[9] UN Comtrade, Norway's official customs statistics, 2016; Information from three Norwegian suppliers of play equipment backs this up. A large sports and play equipment company sources their slides from Germany (and from Norway). Kompan, a retailer of playground equipment in Norway, sources their swings and slides from their own factory in the Czech Republic. Lekolar, a retailer of play equipment and other goods source their plastic slides from Sweden.
[10] UN Comtrade, Germany's and Netherland's official customs statistics, 2016
[11] UN Comtrade, eastern European country's official customs statistics, 2016

European countries.[12] For plastic swings or slides, it is likely that the component comes from EU countries.[13] Tyre seats are likely from the EU region.[14] Nuts, bolts and screws used in the play equipment may come from European countries, Taiwan or USA.[15]

Assembly	Components	Raw Materials
Western Europe	**Steel:** Brazil, Western Europe, Eastern Europe **Plastic:** Western Europe **Tyres:** Western Europe, Eastern Europe **Nuts and bolts:** Western Europe, Taiwan, Switzerland, USA	**Oil and gas:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria (oil); and Qatar, Norway, United States (gas) **Wood:** EU countries, Norway, Russia, Belarus **Rubber:** Thailand, Indonesia, Vietnam **Iron:** Australia, Brazil, China, India
Eastern Europe	**Steel:** Ukraine, Russia, Western and Eastern Europe **Plastic:** Western Europe **Tyres:** Western Europe, Eastern Europe, China **Nuts and bolts:** Western Europe, Taiwan, China, USA	

Risks

The assembly of swings and slides in western European countries is assessed as low risk. For those that are assembled in eastern Europe, there is a risk that trade union rights are not respected in some countries, as well as risks of low wages, unpaid over-time and insecure employment.[16]

If the swings or slides are made from steel, there is a chance that the steel comes from factories in Brazil, Ukraine, Russia and Eastern Europe where trade union rights may not be respected.[17]

[12] UN Comtrade, Germany's and Netherland's official customs statistics, 2016
[13] UN Comtrade, Germany's and Netherland's official customs statistics, 2016
[14] UN Comtrade, Germany's and Netherland's official customs statistics, 2016
[15] UN Comtrade, Germany's and Netherland's official customs statistics, 2016
[16] For example, ITUC, Survey of violations of trade union rights in Poland, 2016-2017, World Economy, Ecology and Development, Working Conditions and Economic Development in ICT Production in Central and Eastern Europe 2010
[17] ITUC, Survey of violations of trade union rights in Brazil, Poland and other countries, 2016-2017

There are reports of particularly bad air pollution from smelters in Brazil[18] and Russia.[19] People living near steel factories report having respiratory problems[20] and higher than normal rates of cancer.[21] The processing of steel (such as alloys) involve a range of chemicals that are harmful to humans and ecosystems. Similarly, so does the extraction of iron ore.[22]

If the play equipment is made of plastic, the oil is likely to have been extracted in a number of places with very limited traceability. Oil extraction is linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spills associated with health impacts and the contamination of soil and water for surrounding communities.[23]

If wood is used it is likely to have been sourced from Russia or low risk countries. If sourced from Russia, there is a risk that timber has been logged illegally, that health and safety legislation was not followed during the process, and that the logging violates the right of indigenous people.[24] Migrant workers from former Soviet states are common in Russia. Potential risks include forced labour, trafficking, confiscated passports and working for no pay, as well as threats and sexual assaults. Anti-union activities are also common.[25]

Timber from Belarus is considered low-risk.[26] As a member of the European Free Trade Area, Norway implements the EU Timber Regulation.[27] This regulation requires the first company to place timber on the EU (or Norwegian) market to conduct due diligence to minimise the risk that the timber has been logged, transported or traded illegally in its country of origin. Implementation and enforcement of the law varies.

There is a risk that tyre seats are produced in a country with poor respect for trade union rights, such as China.[28] Poor health and safety, forced labour, child labour, low wages, excessive overtime and exploitation of migrant workers are also risks linked to Chinese manufacturing, as well as exploitation

[18] Working Group on Development and Environment in the Americas, Trade, Foreign Investment and the Environment: The Brazilian Experience, June 2004
[19] The Guardian, Story of cities #20: the secret history of Magnitogorsk, Russia's steel city, 2016-04-12
[20] FIDH, Worldwide Movement for Human Rights, How much are human rights worth in the Brazilian mining and steel industry?, 2011-05-18
[21] The Guardian, Story of cities #20: the secret history of Magnitogorsk, Russia's steel city, 2016-04-12
[22] Enact Sustainable Strategies, Riskanalys: instrument, 2017
[23] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011 Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017, The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23
[24] NEPCon, Sourcing Hub, Timber legality risk assessment for Russia, 2017-11-01
[25] Nederland MVO, CSR Risk Russian Federation, Freedom House, Freedom in the World 2013 - Russia, Retrieved 2017-11-01 Eurasia Foundation, Protection the rights of migrant workers in Russia, 2013;
[26] NEPCon, Sourcing Hub, Timber legality risk assessment for Belarus, 2017-11-01
[27] Norwegian government, Norway will implement EU Timber regulation, 17 April 2015,
[28] ITUC, Survey of violations of trade union rights in China, 2016-2017

of migrant workers.[29] People working in tyre factories face an increased risk of cancer.[30] Rubber in swing sets may come from Thailand, or perhaps Indonesia or Malaysia, where there is a risk of child labour [31] or (in the case of Thailand) forced labour and trafficking of migrants from Myanmar or other neighbouring countries.[32] There are also risks of violations of ILO conventions regarding working conditions, including the right to form unions, the right to have permanent contracts for permanent jobs, the risk that wages do not meet the legal minimum, or are not sufficient for a living wage, and the risk that migrant workers are discriminated against and that their passports are confiscated and that they are paid less than other workers.[33] Toxic herbicides are used without adequate protective equipment in rubber plantations in Indonesia and Malaysia. [34]

Some of the nuts and bolts used in swings and slides (though only in a small proportion of products) may have been manufactured in Taiwan. There is a risk that people working in Taiwanese factories are paid very low wages and/or required to work excessively long hours.[35] There are cases of violations of trade union rights in Taiwan[36] and poor health and safety is a risk as toxic chromium can be used in the production of steel nuts and bolts. Migrant workers are at risk of being exploited or discriminated against. [37]

There is a risk of unsafe working practices in iron ore mines in Brazil, China and India as well as risks of environmental impacts. Lack of safety is a major problem, which has resulted in many deaths in, for example, the Chinese mining industry.[38] In 2015, a mining company's iron ore tailings dam in Brazil ruptured, causing one of the worst environmental disasters in the country's history, and killing 19 people.[39] There is a risk that mining operations in Brazil take place without the free, prior and informed consent of indigenous peoples.[40] There are some reports of bonded labour in mines in India[41] though most of the reports concern clay mining rather than iron ore mining. Trade union rights are often not respected in China and India, and not fully respected in Brazil.[42] Mining in high-

[29] China Labour Bulletin, Wages and employment, Retrieved 2017-12-12, US Department of Labor, List of Goods being produced by Child Labour or Forced Labour, Retrieved 2017-12-12
[30] International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 100F: Occupational exposures in the rubber-manufacturing industry, 2012
[31] US Department of Labor, Report on child labor, Thailand, 2012; ILO, Combating the worst forms of child labour in shrimp and seafood processing areas in Thailand, 2016; Danwatch, Do you use rubber?, Jan 2013
[32] Human Rights Watch, From the tiger to the crocodile: Abuse of migrant workers in Thailand, 2010
[33] Danwatch, Do you use rubber?, Jan 2013
[34] Danwatch, Do you use rubber?, Jan 2013
[35] South China Morning Post, 'Low pay, long hours': life inside factory that supplied Ivanka Trump brand in China, 2017-06-28; The Guardian, The grim truth of Chinese factories producing the west's Christmas toys, 2016-12-04; China Labor Watch, Minimum wage standards in China, 2016; International Labor Rights Forum, Six cents an hour, 1996; Ressources Humaines Sans Frontière, Forced labour in Taiwan, Retrieved 2017-11-03
[36] ITUC, Survey of violations of trade union rights in China and Taiwan, 2016-2017
[37] Swedwatch, Riskanalys på byggmaterial och byggprodukter, 2017
[38] Mining Technology, China's appalling mining death rate – dealing with 'disorderly' management 2012-10-31
[39] Human Rights Watch, World Report 2017, Brazil, Retrieved 2017-11-03; Conectas Human Rights, Brazil denounced in OAS for Doce river tragedy, Retrieved 2017-11-03
[40] Conectas Human Rights, Brazil denounced in OAS for Doce river tragedy, Retrieved 2017-11-03
[41] Topical research digest: human rights and contemporary slavery, Bonded labour in India, Retrieved 2017-11-03
[42] ITUC, Survey of violations of trade union rights in China, India and Brazil, 2016-2017

risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[43]

Mats

Summary of the most severe risks

Assembly	Components	Raw materials
Child labour Forced labour Poor health and safety Exploitation of migrant workers Lack of union rights Excessive working hours Low wages	**Plastics** Poor health and safety Fire and explosion Pollution Forced Labour Child Labour Lack of union rights Exploitation of migrant workers Low wages Excessive overtime	**Oil and in rare cases soy, corn or tapioca:** Poor working conditions Poor health and safety Lack of union rights Environmental pollution Child labour Forced labour Deforestation Land conflicts with indigenous peoples Impacts on local communities sexual abuse
Medium-high risk	**Medium-high risk**	**Medium-high risk**

The product

Thick gym mats, “crash mats” or “landing mats” consist of a plastic covering, made of polyester coated with PVC or nylon, and a foam interior, made from polyurethane (sometimes partially made from biopolymers made from soy, corn or tapioca[44]).[45]

Thinner gym mats, or pilates mats, are made from foam which can be made from artificial latex (acrylonitrile-butadiene rubber), PVC, or polyethylene.[46]

The supply chain

Trade statistics are not available for gymnastics mats, but the figures for athletics and gymnastic equipment in general show that Norway imports just under half of this equipment from Europe and just under half from China and Taiwan.[47] Crash mats are likely to be sourced from Europe as they are heavy and therefore costly to transport across large distances. Lighter yoga-style mats may be

[43]Wday, The Bakken’s dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015

[44] Some mats are made from ‘benefoam’, which is partially made from corn or tapioca (Ingredion, Evolving biopolymers, Retrieved 2017-11-16) or partially made from soy (Worldwise, EcoAdvantages, Retrieved 17-11-16)

[45] Analysis of thick gym mats available to buy via www.decathlon.co.uk and www.amazon.co.uk

[46] Analysis of thick gym mats available to buy via https://www.sportsdirect.com/ and www.decathlon.co.uk.

[47] UN Comtrade, Norway’s official customs statistics, 2016; Interviews with two Norwegian companies back this up. Lekolar, a retailer of play equipment and other goods source the plastic coating and foam for their gym mats from a factory in Sweden. Another large Norwegian sports and play equipment company sources their gym mats from Europe (France, Switzerland, Eastern Europe) and from China.

sourced from East Asia.[48] Of the mats that are sourced from Europe, the majority are likely to come from Western Europe and only a minority from Eastern Europe.[49] Not all of the companies in the EU necessarily manufacture the gym mats themselves and therefore a higher proportion of mats are likely to be manufactured in the far east.

In cases where the mats are assembled in Western Europe, the components – virtually all products of the plastics industry – are likely to come from Western Europe.[50] For those that are assembled in China or Taiwan, the components mainly come from China and Taiwan or other countries such as Saudi Arabia, Iran, South Korea and Japan (and in the case of polyurethane from the EU and PVC from the US).[51] The raw materials are all products of the plastics industry, unless the mat also includes bioplastics.

Assembly	Components	Raw Materials
Western Europe	**Polyurethane:** Western Europe **Polyethylene:** Western Europe **Artificial latex:** Western Europe **PVC:** Western Europe **Polyester and nylon:** Western Europe	**Oil and gas:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria (oil); and Qatar, Norway, United States (gas) *In rare cases:* **Soy**[52]**:** USA, Brazil **Corn**[53]**:** USA, China **Tapioca (cassava)**[54]**:** Nigeria, Thailand, Indonesia, Brazil
China Taiwan	**Polyurethane:** EU countries, Taiwan, China **Polyethylene:** Saudi Arabia, Iran, Korea **Artificial latex:** China, Malaysia, Korea **PVC:** US, Japan	

[48] Description of the supply chain of a large Norwegian sports and play equipment company, which obtains its crash mats from France and Eastern Europe, and its yoga and pilates mats from China and Switzerland.
[49] UN Comtrade, Norway's official customs statistics, 2016; Interviews with two Norwegian companies back this up. Lekolar, a retailer of play equipment and other goods source the plastic coating and foam for their gym mats from Sweden. Another large Norwegian sports and play equipment company sources their European gym mats from France, Switzerland and Eastern Europe).
[50] UN Comtrade, EU official customs statistics, 2016
[51] UN Comtrade, China's and Taiwan's official customs statistics, 2016
[52] World Atlas, quoting statistics from FAOSTAT, 10 Countries With Largest Soybean Production, Retrieved 17-11-16; NEPCon, Sourcing Hub, legal, environmental and social risk assessment for soy in Brazil, 2017-06-19
[53] World Corn Production.com, World Corn Production 2017/2018, Retrieved 17-11-16
[54] World Atlas, Top Cassava Producing Countries In The World, Retrieved 17-11-16

	Polyester and nylon: China, Korea (Republic of), Taiwan, Japan	

The risks

The risks linked to the manufacture of mats sold in Norway fall into two distinct categories: high or medium risk for those coming from China and Taiwan respectively, and low risk for those coming from the EU.

Factories in China are associated with high risks of human rights abuses including child labour[55] and forced as well as bonded labour.[56] Health and safety conditions in Chinese factories are poor.[57] In both Chinese and Taiwanese factories there is a risk that people are paid very low wages and/or required to work excessively long hours.[58] Migrant workers constitute a particularly vulnerable group, in which individuals often lack contracts and access to social security.[59] Trade union rights are not respected in China and there are cases of violations in Taiwan.[60]

Mats from China or Taiwan contain plastic components that are likely to have been manufactured in Asia (or sometimes the EU or USA). For components manufactured in high risk countries, there is a very high risk of severe health impacts among people working in the plastics industry as a result of poor management and lack of ventilation and safety equipment.[61] There is a risk of fires and explosions in factories producing plastics, as well as the risk of air pollution and contamination of soil and water from waste water.[62] Many small chemical factories in China have been shut down recently in order to try to reduce air pollution, including factories making polyethylene.[63] The plastics industry is the main source of industrial air pollution in Taiwan.[64] There are examples of plastic production

[55] China Labor Watch, reports on toy factories in China, Retrieved 2017-11-02; International Labor Rights Forum, Six cents an hour, 1996

[56] Topical research digest: Human rights and contemporary slavery, The dark side of labour in China, Retrieved 2017-11-02

[57] International Journal of Occupational and Environmental Health, Occupational Health and Safety in China, Oct/Dec 2003; Labor Watch Pakistan, Safety at workplace, 2015-08-24

[58] South China Morning Post, 'Low pay, long hours': life inside factory that supplied Ivanka Trump brand in China, 2017-06-28; The Guardian, The grim truth of Chinese factories producing the west's Christmas toys, 2016-12-04; China Labor Watch, Minimum wage standards in China, 2016; International Labor Rights Forum, Six cents an hour, 1996; Ressources Humaines Sans Frontière, Forced labour in Taiwan, Retrieved 2017-11-03

[59] China Labour Bulletin, Migrant workers and their children, Retrieved 2017-11-30

[60] ITUC, Survey of violations of trade union rights in China and Taiwan, 2016-2017

[61] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[62] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today,

[63] ICIS, Asian Chemical Connections, China's War On Air Pollution Causes Major Chemicals Shortages, 2017-09-05

[64] Archives of Environmental Health, Association between petrochemical air pollution and adverse pregnancy outcomes in Taiwan, Sep/Oct 2002

plants in Taiwan being accused of increasing the number of cancer patients in the local area.[65] Trade union rights are poorly respected in China, Saudi Arabia, Iran, South Korea and Malaysia.[66]

Oil is usually the only raw material used in gym mats. It is extracted in a number of places around the world with very limited traceability. Oil extraction is linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spills leading to health impacts and contamination of soil and water for surrounding communities.[67] Oil extraction in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[68]

For gym mats that contain bioplastics, if the material is from tapioca, it is likely that the raw material originates in Nigeria and that there is a risk of child labour. [69] If the material is from soy, it is likely that the material is from Brazil and that there is a risk of land tenure conflicts with indigenous peoples, illegal labour practices, particularly with respect to discrimination, women's rights and minimum age issues, and a risk that natural forests in the Amazon or Cerrado in Brazil are cleared to make way for soy farms.[70]

[65] Taipei Times, Police Block protesters from FPG 2014-04-24
[66] ITUC, Survey of violations of trade union rights, 2016-2017
[67] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011, Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017; The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23
[68]Wday, The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015
[69] Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010
[70] NEPCon, Sourcing Hub, legal, environmental and social risk assessment for soy in Brazil, 2017-06-19

Balls

Summary of the most severe risks

Assembly	Components	Raw materials
Child labour Forced labour Poor health and safety Lack of union rights Excessive working hours Exploitation of migrant workers Low wages	**Plastics industry, cotton mills** Poor health and safety Fire and explosion Pollution Lack of union rights Child labour Forced labour	**Oil, cotton farms, rubber** Forced labour Poor working conditions Lack of union rights Child labour Contamination from over-use of pesticides or use of fake pesticides Poor health and safety People trafficking Exploitation of migrant workers Sexual abuse
High risk	**High risk**	**High risk**

The product

Footballs consist of an inflatable bladder, an inner lining and an outer cover. The bladder is made of natural rubber, synthetic rubber (butyl rubber) or polyurethane. The inner lining is made up of several layers of cotton or polyester, and the outer cover is usually made of coated polyurethane of PVC. Traditionally, the outer cover was made of leather but since the 1970s, the majority of footballs now have a synthetic outer cover.[71]

Basketballs also consist of the same three layers: an inflatable bladder, an inner lining and an outer cover. Both the bladder and the outer cover are made of natural or synthetic rubber (butyl rubber). The inner lining is made of a layer of thread that is wound around the bladder which is usually made of nylon or polyester.[72] The raw materials are virtually all plastics, in some cases with the addition of natural rubber or cotton.

The supply chain

Norway imports more than three-quarters of its inflatable balls from Pakistan and China.[73] It is estimated that 40 per cent of global production of footballs comes from one town in eastern Pakistan; namely Sialkot.[74]

[71] Football Bible, What is a soccer ball made of; The Centre for Sports Engineering Research, How are footballs made; Soccer Ball World, http://www.soccerballworld.com/Soccer_Ball_Construction.htm, Retrieved 2017-11-01

[72] Duke University Sociology course materials, The Rubber Basketball Construction Process; How Products are Made, Basketball; LiveStrong.com, What makes up a basketball, Retrieved 2017-11-01

[73] UN Comtrade, Norway's official customs statistics, 2016; Interviews with two Norwegian companies back this up. Lekolar, a retailer of play equipment and other goods, sources their balls from a factory in China, which also obtains the plastic components from China. Another large Norwegian sports and play equipment company sources most of their footballs from Pakistan, and a minority from India.

[74] Wall Street Journal, A soccer sore point, 2010-04-28

The components for footballs and basketballs come from a wide range of countries. Butyl rubber is mainly sourced from Russia, with small proportions also coming from Canada and the US.[75] The other components principally come from Asia. Cotton thread is largely sourced from India and, to a lesser extent, Pakistan and Vietnam.[76] Polyester and nylon thread is largely sourced from China and Taiwan.[77] Polyurethane and PVC are imported from a wide variety of countries, principally China, the EU, USA and Japan. [78]

Assembly	Components[79]	Raw Materials
Pakistan China Vietnam	**Butyl rubber:** Russia, Canada, US **Polyurethane:** China, Italy, Spain, Germany **PVC:** China, US, Japan **Cotton thread:** India, Vietnam, Pakistan **Polyester and nylon thread:** China, Taiwan	**Oil and gas:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria (oil); and Qatar, Norway, United States (gas) **Rubber:** Thailand, Indonesia, Vietnam[80] **Cotton farms**: India, China, US[81]

Risks

The manufacturing of footballs and basketballs largely takes place in factories in China and Pakistan where there are high risks of human rights abuses including child labour[82] and forced and bonded labour.[83] There have been efforts to eliminate child labour in the production of footballs which have had some success.[84] Nevertheless, Nike changed its Pakistan subcontractor in 2007 after concerns of the use of child labour.[85] The Human Rights Commission of Pakistan estimated in the 1990s that there were around 11 million children working in Pakistan, at least half of them under the age of

[75] UN Comtrade, Pakistan's and China's official customs statistics, 2016
[76] UN Comtrade, Pakistan's and China's official customs statistics, 2016
[77] UN Comtrade, Pakistan's and China's official customs statistics, 2016
[78] UN Comtrade, Pakistan's and China's official customs statistics, 2016
[79] UN Comtrade, Pakistan's and China's official customs statistics, 2016
[80] Chemical Economics Handbook, Natural rubber, Retrieved 2017-11-01
[81] National Cotton Council of America, Production ranking, 2016
[82] International Labor Rights Forum, Missed the Goal for Workers: the Reality of Soccer Ball Stitchers in Pakistan, India, China and Thailand, 2010-06-07; China Labor Watch, reports on toy factories in China, Retrieved 2017-11-02; International Labor Rights Forum, Six cents an hour, 1996
[83] Topical research digest: Human rights and contemporary slavery, The dark side of labour in China, Retrieved 2017-11-02; Labour Watch Pakistan, Bonded and forced labour in Pakistan, 2011-04-11
[84] The Guardian, Football ban sends child workers into worse jobs, 2001-04-25; Human Rights and Business Dilemmas Forum, Child labour, Retrieved 2017-12-04; CNN, Pakistan soccer ball industry seeks end to child labor, 1998-04-09
[85] Financial Times, Nike gets new Pakistan football maker, 2007-05-25

10.[86] Health and safety conditions in factories in China and Pakistan are poor,[87] with a risk of people being paid very low wages and/or being required to work excessively long hours.[88] Migrant workers constitute a particularly vulnerable group in China, at risk being exploited. Trade union rights are not respected in China or Pakistan.[89]

The majority of the components of footballs and basketballs are products of the plastics industry, mainly from high risk countries such as Russia and China. There is a very high risk of severe health impacts among people working in the plastics industry as a result of poor management and lack of ventilation and safety equipment. [90] There is a risk of fires and explosions in factories producing plastics, as well as the risk of air pollution and contamination of soil and water from waste water. [91]

If cotton is used, there is a risk of child labour[92], forced labour, sexual harassment and low pay[93] in the mills that make the thread in India[94] and a risk of forced labour in cotton mills in Pakistan.[95] Trade union rights are poorly respected in all three main countries supplying cotton thread.[96]

Oil is the main raw material used in footballs and basketballs. It is extracted in a number of places worldwide with very limited traceability. Oil extraction is linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spills leading to health impacts and contamination of soil and water for surrounding communities.[97]

There are risks linked to cotton production in India and China. The risks of the use of child labour are high, especially in India.[98] In India, cotton farmers risk getting into a cycle of unmanageable debt,

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[86] The Atlantic, Child labour in Pakistan, 1996

[87] International Journal of Occupational and Environmental Health, Occupational Health and Safety in China, Oct/Dec 2003; Labor Watch Pakistan, Safety at workplace, 2015-08-24

[88] South China Morning Post, 'Low pay, long hours': life inside factory that supplied Ivanka Trump brand in China, 2017-06-28; The Guardian, The grim truth of Chinese factories producing the west's Christmas toys, 2016-12-04; China Labor Watch, Minimum wage standards in China, 2016; International Labor Rights Forum, Six cents an hour, 1996

[89] ITUC, Survey of violations of trade union rights in China and Pakistan, 2016-2017

[90] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[91] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[92] US Department of Labor, List of goods produced by child labor or forced labor, Retrieved 2017-11-02; Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010

[93] The Guardian, India's clothing workers: 'They slap us and call us dogs and donkeys', 2012, https://www.theguardian.com/world/2012/nov/25/india-clothing-workers-slave-wages

[94] Reuters, Scale of child slavery "shocking" in India's spinning mills: research, 2016; BBC, India's exploited child cotton workers, 2012-01-19

[95] US Department of Labor, List of goods produced by child labor or forced labor, Retrieved 2017-11-02

[96] ITUC, Survey of violations of trade union rights in India, China and Pakistan, 2016-2017ITUC, Survey of violations of trade union rights, India, 2016-2017

[97] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011 Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017, The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23

[98] CSR Academy, Combating child labor in the supply chain in India, 2013; Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010

especially those growing genetically-engineered cotton. 270,000 cotton farmers committed suicide in India between 1995 and 2014.[99] Pesticides are often over-used in cotton fields in India and China (or fake pesticides used in India[100]), with negative impacts on the environment and human health.[101]

If natural rubber is used, it is likely to come from plantations in Thailand, Indonesia or Malaysia, where there is a risk of the use of child labour [102] or (in the case of Thailand) forced labour and trafficking of migrants from Myanmar or other neighbouring countries.[103] There are also risks of violations of ILO conventions regarding working conditions, including the right to form unions, the right to have permanent contracts for permanent jobs, the risk that wages do not meet the legal minimum, or are not sufficient for a living wage, and the risk that migrant workers are discriminated against, including confiscation of passports and migrant workers being paid less than other workers.[104] Toxic herbicides are used without adequate protective equipment in rubber plantations in Indonesia and Malaysia. [105]

Rackets

Summary of the most severe risks

Assembly	**Components**	**Raw materials**
Child labour Bonded labour Poor health and safety Lack of union rights Exploitation of migrant workers Excessive overtime Low wages	**Plastics industry** Poor health and safety Fire and explosion Pollution Lack of union rights Exploitation of migrant workers Excessive overtime Low wages	**Oil, aluminium, titanium, softwood** Forced labour Poor working conditions Lack of union rights Illegal logging Poor health and safety Violation of indigenous peoples' rights Exploitation of migrant workers Land conflict Pollution Sexual abuse
High risk	**High risk**	**High risk**

[99] The Guardian, India's farmer suicides: are deaths linked to GM cotton?, 2014-05-05
[100] Reuters, Fake pesticides endanger crops and human health in India, 2015-11-20
[101] International Journal of Applied Research, Bt cotton in India, pesticide use and environmental impact in India, 2016; International Journal of Occupational and Environmental Health, Acute pesticide poisoning among female and male cotton growers in India, 2005; Journal of Developmental Economics, Risk preferences and pesticide use by cotton farmers in China, 2013
[102] US Department of Labor, Report on child labor, Thailand, 2012; ILO, Combating the worst forms of child labour in shrimp and seafood processing areas in Thailand, 2016; Danwatch, Do you use rubber?, Jan 2013
[103] Human Rights Watch, From the tiger to the crocodile: Abuse of migrant workers in Thailand, 2010
[104] Danwatch, Do you use rubber?, Jan 2013
[105] Danwatch, Do you use rubber?, Jan 2013

The products

Tennis racquets consist of a frame, which is typically made of aluminium, carbon fibre (graphite) or titanium, a handle, made of polyurethane and polypropylene and strings, which are made of polyamide (nylon). [106]

Badminton racquets consist of a frame, which is typically made of steel and polyamide or carbon fibre (graphite), a handle, made of wood and polyurethane, and strings, which are made of polyamide (nylon).[107]

The supply chain

Norway imports just over two-thirds of its tennis and badminton racquets from China.[108] Most of the components are manufactured in China and Taiwan,[109] and the raw materials come from a wide variety of countries.

Assembly	Components	Raw Materials
China	**Aluminium:** China **Carbon fibre,** made from a polymer of acrylonitrile: China, Korea **Polyurethane:** China, Taiwan, Germany **Nylon:** China, Taiwan	**Bauxite/aluminium:** Australia, China,[110] Malaysia[111] **Titanium:** South Africa, Australia[112] **Oil and gas:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria (oil); and Qatar, Norway, United States (gas) **Softwood:** Russia[113]

[106] Analysis of tennis rackets available to buy via https://www.sportsdirect.com/ and www.decathlon.co.uk.
[107] Analysis of badminton rackets available to buy via https://www.sportsdirect.com/ and www.decathlon.co.uk.
[108] UN Comtrade, Norway's official customs statistics, 2016. An interview with a large Norwegian sports and play equipment company backs this up. They source their tennis and badminton rackets from China.
[109] UN Comtrade, China's official customs statistics, 2016
[110] Mining Technology, Bauxite behemoths: the world's biggest bauxite producers, 2014-05-26; US Geological Survey, Bauxite and alumina, Jan 2017
[111] Malaysia is the biggest supplier of bauxite to China. Business and human rights centre, Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought, 2016-01-12
[112] US Geological Survey, Titanium mineral concentrates, Jan 2017
[113] UN Comtrade, China's official customs statistics, 2016

Risks

Rackets imported into Norway are likely to have been made in China, where factories have a high risk of human rights abuses including child labour[114] and forced and bonded labour.[115] Health and safety conditions in Chinese factories are poor.[116] There is a risk that people are paid very low wages and/or required to work excessively long hours.[117] Migrant workers constitute a particularly vulnerable group, in which individuals risk being exploited and often lack proper contracts and access to social security.[118] Trade union rights are not respected in China as the state does not allow independent trade unions.[119]

Rackets contain plastic components that are likely to have been manufactured in China or Taiwan. There is a high risk of severe health impacts among people working in the plastics industry as a result of poor management and lack of ventilation and safety equipment.[120] There is a risk of fires and explosions in factories producing plastics, as well as the risk of air pollution and contamination of soil and water from waste water.[121] Many small chemical factories in China have been shut down recently in order to try to reduce air pollution, including factories making polyethylene.[122] The plastics industry is the main source of industrial air pollution in Taiwan.[123] Similarly, there is a risk of air pollution from aluminium smelters in China. A thick winter smog appeared around Beijing and other Chinese cities in 2017, attributed to aluminium production and coal consumption. China imposed stricter environmental regulations in 2015 and is tightening implementation now,[124] including by cutting back on production.[125] Polluted waste water and solid waste can also lead to environmental impacts in the local area, if not maintained properly.[126]

Oil is a principal raw material used in gym mats. It is extracted in a number of places worldwide with very limited traceability. Oil is connected to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced

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[114] China Labor Watch, reports on toy factories in China, Retrieved 2017-11-02; International Labor Rights Forum, Six cents an hour, 1996

[115] Topical research digest: Human rights and contemporary slavery, The dark side of labour in China, Retrieved 2017-11-02

[116] International Journal of Occupational and Environmental Health, Occupational Health and Safety in China, Oct/Dec 2003; Labor Watch Pakistan, Safety at workplace, 2015-08-24

[117] South China Morning Post, 'Low pay, long hours': life inside factory that supplied Ivanka Trump brand in China, 2017-06-28; The Guardian, The grim truth of Chinese factories producing the west's Christmas toys, 2016-12-04; China Labor Watch, Minimum wage standards in China, 2016; International Labor Rights Forum, Six cents an hour, 1996

[118] China Labour Bulletin, Migrant workers and their children, Retrieved 2017-11-30

[119] ITUC, Survey of violations of trade union rights in China, 2016-2017

[120] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[121] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[122] ICIS, Asian Chemical Connections, China's War On Air Pollution Causes Major Chemicals Shortages, 2017-09-05

[123] Archives of Environmental Health, Association between petrochemical air pollution and adverse pregnancy outcomes in Taiwan, Sep/Oct 2002

[124] Financial Times, China's environmental clean-up to have big impact on industry, 2017-05-22

[125] Reuters, China Hongqiao shuts down aluminium smelting pots for winter, 2017-11-15; Metal Miner, Beijing Proposes Massive Idling of Chinese Smelters to Combat Pollution, 2017-02-08

[126] Greenspec, Steel production & environmental impact, Retrieved 2017-11-17

labour as well as oil spills leading to health impacts and contamination of soil and water for surrounding communities.[127]

For rackets made of aluminium, the metal ore (from Bauxite) is likely to come from mines in Australia, China or Malaysia. Bauxite is extracted from open mine pits, which can cause leaching of toxic substances, dust and water pollution, soil erosion, water shortage and negative impacts on biodiversity.[128] China's mining industry has a poor safety record.[129] For bauxite mines in Malaysia, there is a risk that rivers and the sea are polluted because of poor waste management facilities. In 2016, Malaysia banned bauxite mining in order to cut back on pollution, though there is evidence that mining continues illegally.[130] China has also imposed stricter environmental regulations on bauxite smelters, forcing some to shutdown.[131] The environmental risks associated with bauxite mining in China are less well-documented than in Malaysia, but are likely to be similar.

For rackets made of titanium, the metal ore is likely to come from mines in South Africa or Australia. Mining in South Africa is reported to cause substantial environmental and social harm, including water pollution, air pollution and destroying areas which people rely on for farming and cultural and spiritual practices.[132] A land rights activist protesting against an open cast titanium mine in South Africa was shot dead in 2016.[133] Hazardous working conditions as well as conflicts over land with local communities are examples of other risks.[134]

Mining (and oil-extraction) in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[135]

For rackets made of wood, it is likely that Chinese factories source the timber from Russia where there is a risk that the timber has been illegally logged, that health and safety legislation have not

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[127] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011, Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017; The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23

[128] The Wilderness Society, Bauxite mining threatens Wild Rivers 2015-07-31; Naturskyddsföreningen, Bra Miljöval – Kriterier 2013:4 2013

[129] US Geological Survey, 2013 Minerals Yearbook, China

[130] Business and human rights centre, Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought, 2016-01-12; Asian correspondent, China's demand for aluminium is poisoning Southeast Asia, 2015-09-14; Reuters, Malaysia's bauxite exports rise despite mining ban, 2017-07-06; BBC, Bauxite in Malaysia: The environmental cost of mining, 2016-01-19

[131] Reuters, Alumina shortages to increase as Chinese crackdown bites, 2017-10-19; Industrial Minerals, Environmental tax to end era of cheap Chinese minerals, 2017-06-30; Asociación Nacional de Fabricantes de Productos Refractarios, Materiales y Servicios Afines, Massive production shutdown in China lifts bauxite prices, 2017-06-05

[132] Business and Human Rights, After the Indabas: Where next for southern African mining and human rights? Retrieved 2017-11-16; Centre for Environmental Rights and six other NGOs, Joint Stakeholders' Submission on: The threats to human rights from mining and coal-fired power production in South Africa, 2016-10-05

[133] Amnesty International, South Africa 2016/2017, Retrieved 2017-11-16

[134] Swedwatch, Platinautvinning med risker, 2013

[135]Wday, The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015

followed and that the logging has violated the rights of indigenous people.[136] There is also a risk of migrant workers being exploited.[137]

Skipping ropes

Summary of the most severe risks

Assembly	Components	Raw materials
Child labour Forced labour Poor health and safety Excessive overtime Low wages Lack of union rights	**Plastics industry, cotton mills** Poor health and safety Fire and explosion Pollution Child labour forced labour Lack of union rights	**Oil, cotton farms, softwood, iron ore** Forced labour Child labour Poor working conditions Lack of union rights Contamination from over-use of pesticides or use of fake pesticides Pollution Illegal logging Poor health and safety Violation of indigenous rights Sexual abuse
Medium-high risk	**Medium-high risk**	**High risk**

The product

Skipping ropes consist of a rope, made of nylon, PVC, polyurethane or cotton, handles, made of polypropylene, polyurethane or softwoods and, for higher-end skipping ropes, ball bearings made of steel.[138]

The supply chain

Norway imports virtually all of its athletics and gymnastic equipment from suppliers in western Europe, China and Taiwan.[139] The majority of the components of skipping ropes are products of the plastics industry which usually also come from EU countries, China and Taiwan.[140] If the rope is made of cotton, Western European factories are likely to source this from elsewhere in Western Europe, whereas Chinese and Taiwanese factories are likely to source it from India, Vietnam and Pakistan.[141] For high-end ropes, the ball bearings are likely to come from EU countries or Japan.[142] The raw

[136] NEPCon, Sourcing Hub, Timber legality risk assessment for Russia, 2017-11-01
[137] Nederland MVO, CSR Risk Russian Federation, Freedom House, Freedom in the World 2013 - Russia, Retrieved 2017-11-01 Eurasia Foundation, Protection the rights of migrant workers in Russia, 2013;
[138] Analysis of skipping ropes available to buy via https://www.sportsdirect.com/ and www.decathlon.co.uk.
[139] UN Comtrade, Norway's official customs statistics, 2016; Description of the supply chain of Lekolar, a retailer of play equipment and other goods in Norway, obtained 2017-11-22. Their skipping ropes are produced in China, from a factory that obtains the plastic components from China.
[140] UN Comtrade, EU's, China's and Taiwan's official customs statistics, 2016
[141] UN Comtrade, EU's, China's and Taiwan's official customs statistics, 2016
[142] UN Comtrade, EU's, China's and Taiwan's official customs statistics, 2016

materials are virtually all products of the plastics industry, in some cases with the addition of cotton, wood or iron.

Assembly	Components	Raw Materials
Western Europe	**Polyurethane:** Western Europe **PVC:** Western Europe **Nylon:** Western Europe **Cotton thread:** Western Europe **Ball bearings:** Western Europe	**Oil and gas:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria (oil); and Qatar, Norway, United States (gas) **Cotton farms:** India, China, US[143] **Softwood:** Norway, Poland, Russia[144] **Iron**[145]**:** Australia, Brazil, China, India
China Taiwan	**Polyurethane:** Western Europe, Taiwan, China **PVC:** US, Japan **Nylon:** Taiwan, Japan **Cotton thread:** India, Vietnam, Pakistan **Ball bearings:** Western Europe, Japan	

The risks

The risks linked to the manufacturing of skipping ropes sold in Norway fall into two distinct categories: high or medium risk for those coming from China and Taiwan respectively, and low risk from those coming from the EU.

Factories in China have a high risk of human rights abuses including child labour[146] and forced and bonded labour.[147] Health and safety conditions in Chinese factories are poor.[148] In both Chinese and Taiwanese factories there is a risk that people are paid very low wages and/or required to work excessively long hours.[149] Migrant workers constitute a particularly vulnerable group at risk of being

[143] National Cotton Council of America, Production ranking for 2016
[144] UN Comtrade, EU's, China's and Taiwan's official customs statistics, 2016
[145] US Geological Survey, Global iron ore production data; Clarification of reporting from the USGS, Feb 2017
[146] China Labor Watch, reports on toy factories in China, Retrieved 2017-11-02; International Labor Rights Forum, Six cents an hour, 1996
[147] Topical research digest: Human rights and contemporary slavery, The dark side of labour in China, Retrieved 2017-11-02
[148] International Journal of Occupational and Environmental Health, Occupational Health and Safety in China, Oct/Dec 2003; Labor Watch Pakistan, Safety at workplace, 2015-08-24
[149] South China Morning Post, 'Low pay, long hours': life inside factory that supplied Ivanka Trump brand in China, 2017-06-28; The Guardian, The grim truth of Chinese factories producing the west's Christmas toys,

exploited and discriminated against. Trade union rights are not respected in China and there are cases of violations in Taiwan.[150]

Skipping ropes from China or Taiwan contain plastic components that are likely to have been manufactured in China or Taiwan (or sometimes Europe or Japan). For those from high risk countries, there is a very high risk of severe health impacts among people working in the plastics industry as a result of poor management and lack of ventilation and safety equipment.[151] There is a risk of fires and explosions in factories producing plastics, as well as the risk of air pollution and contamination of soil and water from waste water.[152] Many small chemical factories in China have been shut down recently in order to try to reduce air pollution, including factories making polyethylene.[153] The plastics industry is the main source of industrial air pollution in Taiwan.[154]

If skipping ropes from China or Taiwan contain cotton, it likely comes from factories in India, Pakistan or Vietnam. There is a risk of child labour[155], forced labour, sexual harassment and low pay[156] in cotton mills in India[157] and a risk of forced labour in cotton mills in Pakistan.[158] Trade union rights are poorly respected in all three main countries supplying cotton thread.[159]

Oil is the main raw material used in skipping ropes. It is extracted in a number of places worldwide with very limited traceability. Oil is connected to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spills leading to health impacts and contamination of soil and water for surrounding communities.[160]

If cotton is used, there are risks linked to the farms in which it is grown, which are likely to be in India or China. The risks of the use of child labour is high, especially in India.[161] In India, cotton farmers risk

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2016-12-04; China Labor Watch, Minimum wage standards in China, 2016; International Labor Rights Forum, Six cents an hour, 1996; Ressources Humaines Sans Frontière, Forced labour in Taiwan, Retrieved 2017-11-03

[150] ITUC, Survey of violations of trade union rights in China and Taiwan, 2016-2017

[151] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[152] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today, 2015-04-09

[153] ICIS, Asian Chemical Connections, China's War On Air Pollution Causes Major Chemicals Shortages, 2017-09-05

[154] Archives of Environmental Health, Association between petrochemical air pollution and adverse pregnancy outcomes in Taiwan, Sep/Oct 2002

[155] US Department of Labor, List of goods produced by child labor or forced labor, Retrieved 2017-11-02; Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010

[156] The Guardian, India's clothing workers: 'They slap us and call us dogs and donkeys', 2012

[157] Reuters, Scale of child slavery "shocking" in India's spinning mills: research, 2016; BBC, India's exploited child cotton workers, 2012-01-19

[158] US Department of Labor, List of goods produced by child labor or forced labor, Retrieved 2017-11-02

[159] ITUC, Survey of violations of trade union rights in India, Vietnam and Pakistan, 2016-2017

[160] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011, Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017; The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23

[161] CSR Academy, Combating child labor in the supply chain in India, 2013; Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010

getting into a cycle of unmanageable debt, especially those growing genetically-engineered cotton. 270,000 cotton farmers committed suicide in India between 1995 and 2014.[162] Pesticides are often over-used in cotton fields in India and China (or fake pesticides used in India[163]), with negative impacts on the environment and human health.[164]

If wood is used it is likely to have been sourced from Norway, Poland or Russia. For timber from Russia, there is a risk that it was logged illegally, that health and safety legislation was not followed when the timber was logged, and that the logging violates the right of indigenous people. [165] There is also a risk of migrant workers being exploited.[166]

If ball bearings are used, it is likely that the iron came from Australia, Brazil, China or India. There is a risk of unsafe working practices in iron ore mines in Brazil, China and India. Lack of safety is a major problem, which has resulted in many deaths in for example the Chinese mining industry.[167] Environmental impacts is also a problem. In 2015, a mining company's iron ore tailings dam in Brazil ruptured, causing one of the worst environmental disasters in the country's history, and killing 19 people.[168] There is a risk that mining operations in Brazil take place without the free, prior and informed consent of indigenous peoples.[169] There are some reports of bonded labour in mines in India[170] though most of the reports concern clay mining rather than iron ore mining. Trade union rights are often not respected in China and India, and not fully respected in Brazil.[171] Mining in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[172]

[162] The Guardian, India's farmer suicides: are deaths linked to GM cotton?, 2014-05-05
[163] Reuters, Fake pesticides endanger crops and human health in India, 2015-11-20
[164] International Journal of Applied Research, Bt cotton in India, pesticide use and environmental impact in India, 2016; International Journal of Occupational and Environmental Health, Acute pesticide poisoning among female and male cotton growers in India, 2005; Journal of Developmental Economics, Risk preferences and pesticide use by cotton farmers in China, 2013
[165] NEPCon, Sourcing Hub, Timber legality risk assessment for Russia, 2017-11-01
[166] Nederland MVO, CSR Risk Russian Federation, Freedom House, Freedom in the World 2013 - Russia, Retrieved 2017-11-01 Eurasia Foundation, Protection the rights of migrant workers in Russia, 2013;
[167] Mining Technology, China's appalling mining death rate – dealing with 'disorderly' management 2012-10-31
[168] Human Rights Watch, World Report 2017, Brazil, Retrieved 2017-11-03; Conectas Human Rights, Brazil denounced in OAS for Doce river tragedy, Retrieved 2017-11-03
[169] Conectas Human Rights, Brazil denounced in OAS for Doce river tragedy, Retrieved 2017-11-03
[170] Topical research digest: human rights and contemporary slavery, Bonded labour in India, Retrieved 2017-11-03
[171] ITUC, Survey of violations of trade union rights in China, India and Brazil, 2016-2017
[172]Wday, The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015

Markers and crayons

Summary of the most severe risks

Assembly	Components	Raw materials
Forced Labour Child labour Low wages Excessive overtime Poor health and safety Lack of union rights Exploitation of migrant workers	**Plastics, ink and wax** Poor health and safety Toxic waste Fire and explosions Forced labour Lack of union rights Fire and explosion Low wages Exploitation of migrant workers	**Ore extraction, pigments and dyes, oil** Pollution Lack of union rights Low wages Conflict with local communities Impacts on indigenous peoples' rights and local communities Child labour Forced labour Poor working conditions Sexual abuse
High risk	**High risk**	**High risk**

The product

Crayons are usually made from paraffin wax, powder color pigments and additives such as stearic acid (derived from fat) and polyethylene (derived from oil or natural gas). The paraffin is melted and mixed with pigment and is then poured into molding machines where it solidifies. Paraffin is petroleum oil-based. There are also beeswax crayons available on the market.[173]

Markers are mostly plastic with a polyester container for the ink. Ink consists of pigments or dyes, solvents and synthetic oil-based substances such as cyclic alkylene carbonates and other additives.[174] Pigments can be organic and non-organic, derived from minerals, like iron oxide, zinc oxide and titanium oxide or from oil or natural gas, or from scrap metal or salt.[175] The glimmering mineral mica can sometimes be used in ink.[176]

The supply chain

Crayons and markers are produced in many countries, however, China is dominates the market for both products. Norway mainly imports the products from China, Germany, Japan, Sweden, Malaysia and Indonesia.[177] China is also a big producer of components and raw material used, such as paraffin

[173] Crayon, How are crayons manufactured and what are the basic ingredients?, How products are made, Crayons, Design Life-Cycle, Crayola Crayons: Raw Materials, Retrieved 2017-10-27
[174] Sciencing, What Is the Chemical Composition of Pen Ink?, Retrieved 2017-10-30
[175] Dyes and Pigments, Organic versus inorganic Pigments, Retrieved 2017-10-30
[176] Somo Institute, Beauty and the Beast, Child Labour in India for sparkling cars and cosmetics, 2016
[177] The Observatory of Economic Complexity, Where does Norway import Pencils and Crayons from? (2016) Where does Norway import Felt tipped, other porous-tipped pens and markers from? (2016), Retrieved 2017-11-24

wax, plastic and pigments.[178] Minerals used for pigments can come from a large number of countries. For example, USA and China are large producers of titanium oxide and Mexico has one of the largest factories producing titanium oxide.[179] Iron oxide can come from China, India, USA and European countries.[180] In cases where markers and crayons are assembled in Western Europe, components are likely to come from Western Europe.[181]

Assembly/Manufacturing	Component	Raw Material
China Japan Malaysia Germany Indonesia[182]	**Wax**: China, Germany, India, South Africa, The Netherlands, Egypt[183] **Plastic**: China, Germany, Italy, United States, Japan[184] **Ink**: Japan, UK, USA, The Netherlands, Germany, France, China[185]	**Oil:** Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria[186] **Mineral oxide:** United states, Mexico, China, India, Europe[187] **Natural gas:** Qatar, Norway, United States[188] **Pigment and dye**: China, India, Germany, Belgium Spain[189]

Risks

Human rights and environmental risks are linked to both the manufacturing of markers and crayons and raw material extraction. At manufacturing level, China, Indonesia and Malaysia are high-risk countries. China's manufacturing industry in general is associated with low wages, excessive overtime as well as health and safety concerns. Forced labour and child labour has also been reported.[190] China has only ratified four out of eight ILO Core Conventions and union rights are very

[178] HIS Markit, Chemical Economic Handbook: Waxes, Inkworld, European Pigment Production is on the Rise, US Geological Survey, Titanium and Titanium Dioxides, US Geological Survey, Iron Oxide Pigment, Retrieved 2017-10-30, The Observatory of Economic Complexity, Synthetic Organic Pigments and Preps Based Thereon Trade, Retrieved 2017-10-31

[179] US Geological Survey, Titanium and Titanium Dioxides, Retrieved 2017-11-24

[180] US Geological Survey, Iron Oxide Pigment, Retrieved 2017-11-24

[181] UN Comtrade, EU official customs statistics, 2016

[182] The Observatory of Economic Complexity, Pencils and Crayons, Retrieved 2017-11-24

[183] The Observatory of Economic Complexity, Paraffin wax containing <0.75% oil trade, Retrieved 2017-11-24

[184] The Observatory of Economic Complexity, Propylene Polymers, Retrieved 2017-11-24, the Centre for the Promotion of Imports from developing countries, Exporting plastic parts and components to Europe, retrieved 2017-11-24

[185] The Observatory of Economic Complexity, Ink, Retrieved 2017-11-23 E-mail from Marie Ekman, BIC Nordic, 2017-10-25

[186] Råvarumarknaden.se, USA passerade Saudiarabien som världens största oljeproducent, Retrieved 2017-10-27

[187] US Geological Survey, Iron Oxide Pigment, Retrieved 2017-11-24, US Geological Survey, Titanium and Titanium Dioxides, Retrieved 2017-11-24

[188] The Observatory of Economic Complexity, Petroleum gas trade, Retrieved 2017-11-24

[189] The Observatory of Economic Complexity, Acid and mordant dyes and preparations, Retrieved 2017-11-09 Inkworld, European Pigment Production is on the Rise, 2016-05-13

[190] US Department of Labor, List of products produced by child labor or forced labor, Retrieved 2017-12-12

limited as free unions are prohibited.[191] Migrant workers from rural areas often lack contracts and access to social security and are forced to leave their children behind with their family as they often do not have the means to support them.[192] Migrant workers constitute 15 per cent of Malaysia's workforce, coming from poor countries like Myanmar, Bangladesh and Nepal.[193] These migrant workers are exposed to low wages, forced labour, confiscated passports, excessive recruitment fees and poor working conditions and living standards, with limited access to freely enter a union. Discrimination and abuse is also common. Malaysia has not ratified ILO Core Convention 87, 105 nor 111, covering Freedom of Association, Forced Labour and Discrimination.[194]

When ink is mixed there exists safety issues concerning combustible dust that can cause fire and explosions, if not managed properly.[195] Wax is combustible and can also cause fire.[196] Some pigments and dyes are toxic and when produced, there is a risk of toxic air pollution, solid waste and wastewater.[197] This risk is limited when it comes to markers and crayons made for children, as toxic chemicals are highly restricted in products classified as toys.[198] The large dye-industry in India is highly associated with environmental concerns when uncleaned waste water is directly dumped into the surface water, with the risk of negative impacts on local communities' health and access to clean water.[199]

Chemical production in high-risk countries such as China and India is in general linked to hazardous working conditions as a result of poor management and lack of safety equipment, which can lead to severe health impacts among workers, as well as fire accidents. Waste water is often not cleaned, polluting soil and water in the surrounding area.[200] Color pigments and mica are associated with risks when produced and extracted in countries such as Mexico, China and India. These risks include dangerous work environments, low wages, child labour, forced labor and lack of union rights. Mica extraction in India is highly associated with child labour in a hazardous working environment.[201]

In the making of thermoplastic parts, heavy machines are used which increases risks for work related injuries, accidents and workers being exposed to loud noise. High temperatures are used in the process and there are risks regarding burns, explosions and fire.[202] There is also the risk of exposure

[191] International Labour Organisation, Ratification of Fundamental Conventions by Country 2017, China Labor Watch, Did Dreams Come True? Workers still live in fear of occupational injury 2010
[192] China Labour Bulletin, Migrant workers and their children, Retrieved 2017-11-30
[193] World Bank, Three things to know about migrant workers and remittances in Malaysia, Retrieved 2017-10-31
[194] International Trade Union Confederation, Internationally Recognised Core Labour Standards in Malaysia Amnesty International, Trapped – The exploitation of migrant workers in Malaysia 2010; The Guardian, Modern-day slavery rife in Malaysia's electronics industry 2014-09-17; Trippel Pundit, EICC and Electronics Industry Promise to Fight Forced Labor in Malaysia 2015-01-12
[195] U.S. Chemical Safety and Hazard Investigation Board, US Ink/Sun Chemical Corporation Ink Dust Explosion and Flash Fires in East Rutherford, New Jersey, 2012
[196] National Institute for Occupational Safety and Health, Paraffin wax, Retrieved 2017-11-24
[197] World Bank Group, Dye Manufacturing, 2007-04-30
[198] Kemikalieinspektionen, Kort om leksaksreglerna, Retrieved 2017-11-24
[199] Green cross and Pure Earth, Blacksmith institute, Top Ten pollution problems 2012 - Dye Industry, retrieved 2017-11-09
[200] Upphandlingsmyndigheten, Risker i upphandling av varor inom städ och kemikalier, 2016, Pulitzer Center, India: The Toxic Price of Leather, 2017-10-03, ITUC, Toxic work stop deadly exposure today,
[201] Somo Institute, Beauty and the Beast, Child Labour in India for sparkling cars and cosmetics, 2016
[202] Enact, Riskanalys: Medicinska undersökningshandskar, 2016

to toxic and cancerous chemicals. If waste management is lacking, there is a risk that chemicals leak into surrounding water which can result in negative impacts on local communities' access to clean water in the area and health impacts.[203]

Oil extraction is also linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions, risks of forced labour as well as oil spill leading to health impacts and contamination of soil and water for surrounding communities.[204] Mining in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[205]

Toys

Summary of the most severe risks

Assembly	Components	Raw materials
Forced Labour Child labour Low wages Excessive overtime Poor health and safety Lack of union rights Exploitation of migrant workers and student workers	**Plastics, metals, textile** Poor health and safety Toxic waste and pollution Fire and explosions Forced labour Low wages Lack of union rights	**Ore extraction, oil, wood, rubber, cotton** Lack of union rights Conflict with local communities and indigenous peoples' rights Child labour Forced labour Illegal logging Poor health and safety Exposure to toxic chemicals Trafficking Toxic pollution to soil, water, air Exploitation of migrant workers Sexual abuse
High risk	**High risk**	**High risk**

The product

Toys span over a large quantity of different products, such as building blocks, dolls, stuffed animals, match box cars and figurine animals. Raw materials include different kinds of thermoplastics (for

[203] Enact, Riskanalys: Medicinska undersökningshandskar, 2016

[204] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011 Retieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017, The Guardian, Shell Nigeria oil spill '60 times bigger than it claimed', 2012-04-23

[205] Wday, The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015

example polyethylene, ABS, polypropylene, PVC[206]), rubber, wood (for example beechwood[207] or bamboo) textile from polyester and cotton and metals like steel and aluminium and other additives and softeners like bisphenol A and phthalates.[208] Plant based toys are also available on the market and can for example be made from the rubber tree.[209] Production of toys is labour intense and requires several steps, including molding, heating and cooling plastic parts, cutting, sewing, assembling, painting and trimming.[210]

Supply chain

China dominates the market for the production of toys, accounting for 70-80 per cent of the world's production.[211] However, China has lost some of its manufacturers to other Asian regions (but also to Mexico) in the last few years.[212] Components and raw materials may be sourced from a high number of different countries and regions. However, as China is a top producer of several materials, it is likely that it supplies its own domestic market.

Assembly/Manufacturing	Components	Raw Material
China, Hong Kong, Czech Republic, Germany, United States, Mexico, Indonesia, Vietnam[213]	**Thermoplastics**: China, Germany, Italy, United States, Japan[214] **Steel/aluminium:** China, Russia, Norway United Arab Emirates, Canada, India, Japan, Germany, USA, Turkey, South Korea[215]	**Wood:** European countries, North America, Australia, New Zealand (beechwood), China, Japan, Chile, Mexico, New Zealand (bamboo)[217] Top round wood producing countries in total are also USA, China, Canada, Russia and Brazil.[218]

[206] Naturskyddsföreningen, De vanligaste plasterna och tillsatsämnena, Retrieved 2017-11-20
[207] See for example Brio, Trä är själen i våra leksaker, Retrieved 2017-11-20
[208] However, the EU directive on Toys and REACH has limits to the amount of phthalates and bisphenol A in toys.
[209] See for example PlanToys. Some toys also contain electronics but for scope reasons it's not covered in this risk assessment. Risks connected to electronics can be found in the Difi risk-assessments on "Elektronikk och IKT"
[210] The Telegraph, Meet China's Christmas elves, 2013-12-20, Made How, Plastic Doll, Retrieved 2017-11-20
[211] ECSIP Consortium, Study on the competitiveness of the toy industry, 2013-08-30, Upphandlingsmyndigheten, Risker i Upphandling av varor inom kravpaketet giftfri förskola, 2016
[212] Plastic News, Toloken, S. 'Toy makers shifting production' 2013, U.S. Department of Commerce, Industry Report, TIA
[213] The Observatory of Economic Complexity, Toys, Retrieved 2017-11-20, Chicago Tribune, How those plush Easter bunnies got so cuddly 2015-04-15
[214] Plastics Europe, World plastics production 1950-2015, Retireved 2017-12-06, CBI, Ministry of Foreign affairs, Exporting plastic parts and components to Europe, Retrieved 2017-12-06
[215] World Steel Association, World Steel in Figures 2017, The Balance, The biggest Aluminum producers 2014, Retrieved 2017-11-23
[217] the Centre for the Promotion of Imports from developing countries, Exporting value-added bamboo products to Europe, Retrieved 2017-11-21
[218] Food and Agriculture Organisation of the United Nations, 2015 Global Forest Products Facts and Figures 2015

	Textile: China, India, South Korea, Indonesia Taiwan, USA[216]	**Oil**: Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria[219] **Iron ore:** China, Brazil, Australia, Russia[220] **Copper:** Chile, DRC, China, Peru, USA[221] **Bauxite:** Australia, Jamaica, Brazil, Guinea, India, China[222] **Rubber (latex and synthetic):** Indonesia, Malaysia, Thailand, South Korea, Vietnam[223] **Cotton:** United states, India, Australia, Uzbekistan, Brazil[224]

Risks

There are many risks linked to toy manufacturing. The toy industry in China has a long-lasting record of adverse human and labour rights impacts, with reports of both forced labour and child labour.[225] Just like the manufacturing sector in China in general, the toy industry is associated with low wages, excessive overtime (working up to 14 hours a day during high season), forced overtime, lack of union rights and short-term contracts. Internal migrant workers from rural areas are discriminated against and particularly exposed to exploitation. Workers' dormitories are often small and unhygienic.[226] Exploitation of student workers is also reported from the toy industry, where students are required, through their educational programmes, to do internships at factories in order to receive their diplomas. The system is often abused and students risk being forced to work with tasks not related to their studies, working shifts around the clock for insufficient pay, excessive overtime and without contracts and social security although stipulated by law.[227]

[216] FIbre2Fashion, Soaring cotton prices benefits polyester fiber consumption, Retrieved 2017-11-22, Nonwowens industry, The Fiber Year Reports on 2016 World Fiber Market, 2017-05-23, Textile World, Man-Made Fibers Continue To Grow, 2015-02-03

[219] Råvarumarknaden.se, USA passerade Saudiarabien som världens största oljeproducent, Retrieved 2017-10-27

[220] US Geological Survey, Iron Ore, Retrieved 2017-10-26 , U.S Geological Survey, Iron ore Retrieved 2017-10-27

[221] U.S. Geological Survey, Mineral Commodity Summaries, Copper January 2017

[222] Index Mundi, Bauxite production by country 2017-10-26

[223] The Observatory of Economic Complexity, Rubber and synthetic Rubber, Retrieved 2017-11-20

[224] The Observatory of Economic Complexity, Raw cotton, Retrieved 2017-11-21

[225] US Department of Labor, List of Goods Produced by Child Labor or Forced Labor, Retrieved 2017-11-22

[226] Upphandlingsmyndigheten, Risker i Upphandling av varor inom kravpaketet giftfri förskola, 2016,

[227] The Guardian, Chinese factory supplying major laptop brands accused of student labour abuses, 2017-10-06, China Labor Watch, Who else continues to exploit toy workers? 2014-11-18, Institute for Global Labour and Human Rights, Dirty Toys made in China, 2015

Similar issues are faced by workers in other East Asian countries also producing toys for the world market. As China and Vietnam only allows for membership in the state union and have not ratified ILO core conventions regarding union rights and collective bargaining (nr. 87, 98) nor convention 105 on forced labour. There are reports that highlight how union leaders and activists are being imprisoned.[228] Vietnam also has many migrant workers who are at high risk of being exploited and discriminated against.

Though allowed by law, unions have limited leverage in Indonesia due to fragmentation and repression from companies. South Korea (with high numbers of migrant workers) and Mexico also have restrictions in union rights, along with harassment and anti-union activities.[229]

Health and safety concerns are also present in the manufacturing and assembling of toy components, especially in countries with insufficient safety routines and where the use of personal protective gear is limited in, for example, China. In the making of thermoplastic parts, heavy machines are used which increase risks for work related injuries, accidents and workers being exposed to high noise. High temperatures are used in the process and there are risks regarding burns, explosions and fire.[230] There is also the risk of exposure to toxic and cancerous chemicals. If waste management is lacking, there is a risk that chemicals will leak into surrounding water which can result in negative impacts on local communities' access to clean water in the area and health impacts.[231]

Similar concerns are also relevant to Chinese steel production plants, which are also major air polluters and contributors to greenhouse gas emissions.[232] In addition, illegal steel plants also exist in China and constitute another risk as these plants are unregulated due to corruption, with hazardous working conditions and environmental impacts as a consequence.[233]

Working environments for textile production are usually hazardous and primitive and the industry deals with a long line of different materials and substances.[234] Health and safety is also a risk in the spray-painting of toys, if protective gear is not provided.[235]

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[228] Human Rights Watch, Not yet a Workers' Paradise - Vietnam's Suppression of the Independent Workers' Movement 2009, Union to union, Facket i världen – Vietnam Retrieved 2017-11-22

[229] Swedwatch, Play Fair – en kampanj för schyssta sportkläder, 2013, Union to Union, Facket i världen: Mexiko, Retrieved 2017-11-22, Veckans affärer, Electrolux riskerar ryktet i världens farligaste stad 2013-02-03, International Trade Union Confederation, Internationally Recognised Core Labour Standards In Korea 2012-09-21; International Labour Organization, Labour Standards - Ratifications of fundamental Conventions and Protocols by country Hämtad 2017-11-22, IndustriALL, IndustriALL affiliates show solidarity for Samsung 2014-06-26, Union to union, Fack agerar för mänskliga rättigheter i Sydkorea 2010-10-28

[230] Enact, Riskanalys: Medicinska undersökningshandskar, 2016

[231] Enact, Riskanalys: Medicinska undersökningshandskar, 2016

[232] International Labour Organisation, Code of practice on safety and health in the iron and steel industry, 2005, Washington Post, This documentary went viral in China. Then it was censored. It won't be forgotten, 2015-03-16, Greenspec, Steel production & environmental impact, Retrieved 2017-11-17

[233] Wired, Step inside Chinas hellish, illicit steel factories, 2016-12-20

[234] ILO, Textiles, clothing, leather and footwear sector, ITGLWF, Fair Games? Human rights of workers in Olympic 2012 supplier factories Gangopadhyay et. Al. An Occupational Health Study of the Footwear Manufacturing Workers of Kolkata, India, Kamla-Raj, University of Calcutta, India, 2011. Human Rights Watch, Toxic Tanneries, 2012

[235] Institute for Global Labour and Human Rights, Dirty Toys made in China, 2015

On a raw material level, risks are connected to the extraction of metal ores, oil, cotton and wood. Copper, iron, and bauxite extraction incorporate social and environmental risks in countries such as China, Russia, Chile, Peru, India, DRC, Zambia and Brazil. Risks include hazardous working conditions, excessive overtime, low wages and anti-union activities and, in some areas, forced labour and trafficking (for example in Peru). Land rights issues and forced displacement constitute other risks and indigenous peoples' rights are often repressed when mines are established.[236] Child labour is also a risk in countries such as DRC and India.[237] Mining causes negative environmental impacts in, for example, copper extraction, whereby high amounts of sometimes toxic waste is produced which can damage surrounding land, water, animals and plants. Mining in general is also water intense and sometimes located in areas exposed to water shortage.[238]

Rubber production include risks of child labour, forced labour, confiscation of migrant workers' passports, harsh working conditions, land grabbing, low pay as well as exposure to paraquat (a cancerogenic pesticide) and lack of union rights in many of the producing countries.[239]

Wood from Russia and China is also associated with risks of illegal logging and harsh working conditions. Forced labour is another risk in the forestry sector, in both Russia and Brazil, as well as in the exploitation of migrant workers.[240]

Cotton production involves a high risk of the use of child labour and forced labour in countries like India and Uzbekistan.[241] Indian cotton farmers risk ending up in debt, especially those growing genetically-engineered cotton.[242] Pesticides are often over-used in cotton fields in India and China (or fake pesticides used in India[243]), with negative impacts on the environment and human health.[244]

Oil extraction is connected to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour, as well as oil spills leading to health impacts and contamination of soil and water for surrounding

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[236] Environmental Justice Atlas, Bauxite mining in Juruti, Para, Brazil Retrieved 2017-11-07
Swedwatch, Riskanalys av material och leverantörsled i Kungsbrohuset 2011, Sustainable Development Strategies Group, Report - Current issues in the Chilean mining Retrieved 2017-11-17, Human Rights Watch, Zambia: Workers Detail Abuse in Chinese Owned Mines 2011-11-03

[237] Amnesty International, Profits and loss: Mining and human rights in Katanga, Democratic Republic of the Congo 2016-03-18

[238] Swedwatch, Rena guldgruvan? AP-fondernas investeringar har en smutsig baksida 2011

[239] Danwatch, Behind the rubber label 2013, Verité, Rubber, Global Witness, *Rubber Barons*, 2013-05-13, Råd & Rön, Däckgummi 2013-03-18

[240] *Environmental Protection Agency,* Liquidating the Forests: Hardwood Flooring, Organized Crime, and the World's Last Siberian Tigers*, 2013,* WWF, Vårt arbete – Illegal avverkning av skog, 2014, ILO, Decent work in forestry, 2015, Nederland MVO, CSR Risk Russian Federation, Retrieved 2017-11-22, MVO Nederland, CSR Risks Brazil, Retrieved 2017-11-22

[241] CSR Academy, Combating child labor in the supply chain in India, 2013, Maplecroft, Risk calculators and dashboards, Climate change will push more children into work, 2010, Human Rights Watch, Uzbekistan: Forced Labor Linked to World Bank, 2017

[242] The Guardian, India's farmer suicides: are deaths linked to GM cotton?, 2014-05-05

[243] Reuters, Fake pesticides endanger crops and human health in India, 2015-11-20

[244] International Journal of Applied Research, Bt cotton in India, pesticide use and environmental impact in India, 2016, International Journal of Occupational and Environmental Health, Acute pesticide poisoning among female and male cotton growers in India, 2005, Journal of Developmental Economics, Risk preferences and pesticide use by cotton farmers in China, 2013

communities.[245] Oil extraction, and mining, in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.[246]

[245] Utrikesdepartementet, Mänskliga rättigheter i Saudiarabien 2011 Retrieved 2017-10-27; ILO, Working Paper No. 267, Working conditions of contract workers in the oil and gas industries, 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations, 2017, The Guardian, Shell Nigeria oil spill '60 times bigger than claimed', 2012-04-23

[246]Wday, The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say 2014-05-06, Al Jazeera, The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28, Columbia law school, Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea November 2015