

LEGAL AND ILLEGAL BLURRED

Update on tin production for consumer electronics in Indonesia

FinnWatch
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This report is published as part of the makeITfair campaign,
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MakeITfair aims to inform young consumers about human
rights, as well as social and environmental issues along the
supply chain. It also addresses consumer electronics
companies that can contribute to change in the industry.

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MakeITfair is a Europe-wide project on consumer electronics, aiming to inform young consumers about human rights, as well as social and environmental issues along the supply chain. The project is co-ordinated by the Dutch organisation SOMO. Project partners are SwedWatch, the Fair Trade Center, Church of Sweden from Sweden; FinnWatch and the Finnish Association for Nature Conservation from Finland; Germanwatch and the Verbraucher Initiative from Germany, KARAT from CEE; ACIDH from the DR Congo, CIVIDEP from India and SACOM from China.
Website: www.makeitfair.org.



FINNWATCH

FinnWatch monitors and researches Finnish companies operating in developing countries, focussing on human and labour rights, the environment and social development. The FinnWatch network consists of eight organisations: the Service Centre for Development Cooperation (Kepa), the Trade Union Solidarity Centre of Finland, the Central Organisation of Finnish Trade Unions, the Consumers, Friends of the Earth Finland, the Finnish Confederation of Salaried Employees, the Finnish Association for Nature Conservation (FANC) and Finn Church Aid.
Website: www.finnwatch.org.



The Finnish Association for Nature Conservation (FANC) is the largest non-governmental organization for environmental protection and nature conservation in Finland. Its objectives include the promotion of sustainable production and consumption and the protection of biodiversity. FANC is the formal representative of FinnWatch, and supports coverage of environmental themes in its work.

Website: www.sll.fi.

Foreword

This update is published as part of the makeITfair project to raise awareness about development issues in the production chain of the consumer electronics industry, with a special focus on products for young consumers, such as mobile phones, MP3 players, game consoles and laptops. The focus of the project is on the consumer electronics industry, as this industry is growing rapidly and facing many social and environmental problems throughout the world.

In the first year of the makeITfair three-year programme, research reports depicted the conditions under which raw materials for the manufacture of electronics are extracted. This update adds to these results. In the second project year, the research dealt with the production of electronics in Asia. The retail and eventual disposal of products in the last phase of the product life cycle will be addressed in the third year of the project.

The dissemination of the research results entails the development of consumer guides, educational material, toolkits for campaigning organisations and web-based tools. Other activities in this project include capacity building in Eastern Europe and an annual international round table to bring together electronics companies, NGOs and trade unions to discuss environmental, human rights and labour conditions down the supply chain of consumer electronics.

This EU-funded programme is led by a consortium of NGOs from Europe including Germanwatch, the Verbraucher Initiative, SwedWatch, the Church of Sweden, the Fair Trade Center, FinnWatch/Finnish Association for Nature Conservation, Karat, SOMO, as well as NGOs in developing countries in Asia and Africa, namely SACOM in China, CIVIDEP in India and ACIDH in the Democratic Republic of Congo.

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Summary

In 2007, makeITfair reported that the global electronics industry utilises a significant proportion of the supply of metals, such as tin, part of which is mined under harsh conditions in developing countries. The majority of electronics companies were unaware of their importance as metal consumers. MakeITfair has called on these companies to take responsibility for their supply chain, including the extraction of the metals.

This FinnWatch update to the makeITfair project adds to the report¹ published in 2007 on the social and environmental conditions on Indonesia's tin mining island. The 2007 report described how tin has scarred two Indonesian islands, namely Bangka and Belitung, producing ghost towns and moonscapes, the effects of mining on the environment, and how farmers became miners, etc. The information was based on a desk study by the Indonesian Jatam Mining Advocacy Network.

During a field visit in November 2008 to Bangka, FinnWatch witnessed severe environmental destruction and unregulated informal mining operations. FinnWatch talked with several miners, whose stories, pictures and working conditions are presented in this update. Although they have made money out of tin mining, those interviewed said their current financial situation and working conditions were unacceptable.

However, this was not the case with all the people in Bangka. FinnWatch also witnessed decent infrastructure and housing for hundreds if not thousands of people. FinnWatch got an opportunity to visit one of the newly built houses belonging to a local land owner, who had made a fortune through his tin business. The people who had benefited most seemed to be land owners, collectors, contractors, small businessmen: intermediaries and middlemen.

The biggest change, when comparing the situation in 2007 with that of the time of the visit, was obviously the looming global financial crisis and its dramatic effect on the global tin price and down the chain to the local economy. Many small scale miners had stopped mining, and only the poorest or those who did not have any other option were left. Their income had dropped by half in six months. Some former miners lived on their savings or through subsistence fishing.

This update deals also with PT Timah's large scale mining operations and the effect on the environment. PT Timah has started reclaiming some former mining areas, but is hindered by informal miners who dig up new soil and plantations in search of tin. Most environmental damage is caused by uncontrolled small scale operations, including destruction of coral reefs due to their work from boats. However, big tin companies also add to this problem. In addition, they buy concentrate from informal miners.

FinnWatch noticed tensions and unclear division of responsibilities between different actors, such as local government, mining companies, small scale miners and independent smelters. They were blaming each other for the problems. The legal and illegal have become blurred: a plurality of regulations has been implemented, everybody bought tin sand from informal miners and even the navy was involved in the business. The blurred economy of tin has been increasing in complexity since 2001, when Indonesia's decentralisation took place.

¹ FinnWatch, report 'Connecting Components, Dividing Communities – Tin production for consumer electronics in the DR Congo and Indonesia', December 2007

I. Introduction



FinnWatch visited Indonesia's tin mining centre, Bangka Island, in November 2008 to update the makeITfair report (2007)² by FinnWatch on tin production for consumer electronics in Indonesia and its social and environmental consequences.

Indonesia is the world's second largest tin producer and the largest supplier to the rest of the world. Currently the electronics industry accounts for 44 percent³ of the world's tin consumption as solder. The electronics industry associations EICC and GeSI⁴ established a working group on extractives in 2008 - a step towards recognizing supply chain responsibility down to the mine level. Moreover, some electronics companies have initiated inquiries along their own supply chain to trace the metals being used.

MakeITfair welcomes the work of the EICC and GeSI, but stresses the need for setting up a concrete plan of action with timeframes included. Even the forerunners have just started dealing with this issue and much more can be done and will have to be done in the coming years. This must happen so that changes will be noticeable in those areas where it counts: in the labour conditions of the miners; in the environment around the mines; for the communities that live close to mining areas; and for populations in conflict areas.

² FinnWatch, report 'Connecting Components, Dividing Communities – Tin production for consumer electronics in the DR Congo and Indonesia', December 2007

³ ITRI Facts: Data on Tin Use in 2007, available at <http://www.itri.co.uk/>

⁴ Electronic Industry Citizenship Coalition, <http://www.eicc.info/>; Global e-Sustainability Initiative, <http://www.gesi.org>

As noted in the 2007 report, in Indonesia the great majority of tin is mined on two islands next to east Sumatra, namely Bangka and Belitung, belonging to Bangka-Belitung province. Bangka is the larger of the two. The province is almost half the size of the Netherlands. The islands are rich in terms of nature and marine environment. It is estimated that around 30 percent of coral reefs in their waters have been damaged due to illegal tin mining and fish poaching. Indonesia has around 17 percent of the world's total coral reefs.⁵

FinnWatch interviewed Indonesia's largest tin company PT Timah, local government officials, the local green movement, a land owner, as well as formal large scale and informal small scale tin miners. In addition, FinnWatch visited the largest smelter in Mentok belonging to PT Timah as well as inland and offshore company operations. PT Timah facilitated many of the meetings, but did not participate in nor interfere with the interviews. One independent smelter refrained from giving an interview to FinnWatch.

⁵ Antara News, article 'Indonesia's coral reef damaged', 4 September 2007, available at <http://www.antara.co.id/en/arc/2007/9/4/coral-reef-in-bangka-belitung-damaged/>

2. Insecure life of informal miners

FinnWatch interviewed more than ten informal small scale (tambang inkonvensional, TI) miners. As mentioned in the 2007 report, TI mines typically employ 5-6 workers and produce a little over a metric tonne a month of tin in the form of low grade (c 20 percentage tin) concentrate. Mining is done by using simple hydraulic separation. No chemicals are needed. Because tin ore can also be extracted from the sea bed, small boats operate in shallow waters around the island.

At the time of the visit, almost all independent tin smelters had ceased operations as world tin prices had fallen sharply due to the global financial crisis, leaving small scale miners with a much reduced market for their product. There had also been a rapid depletion of easily accessible shallow alluvial onshore deposits further reducing production since 2005. However, it was not difficult to track down informal miners as several of them were still working the tin.

The informal miners worked in unsafe conditions and found it difficult to support their families. They earned 2-5 euros per day and were paid approximately Rp 30,000 (2.3 euro⁶) per kg of concentrate. The price they got was probably half of that offered a couple of months back. FinnWatch also met ex-miners who had stopped due to the collapse in tin prices. One of them, a young man having mined for two years until September 2008, told FinnWatch he would start mining again when the price goes up to Rp 50,000 per kg. Now he was supporting himself by fishing.

The 2007 report talked about miners having become suddenly rich. FinnWatch met only one miner who had been able to put money aside. He was in his fifties and had mined illegally for three years before being stopped by the police in October 2008. He used to work in a group of four men producing around 80 kg of concentrate a day. Each of them made at least 75 euros a month, sometimes more than 50 euros a day. The ex-miner had sent money to his family in Java. He planned to live with his savings for a year before looking for another job.

Concerning a living wage, the Indonesian newspaper “Investor Daily” has stated that for the year 2006 a living wage is around Rp 1.4 million (around Jakarta). However, factory workers coming from other provinces put the monthly living wage higher, at Rp 2 million (150 euros).⁷ The official provincial minimum wage in Bangka-Belitung for 2009 is Rp 850,000 (64 euros)⁸, which seems very low compared with the high living costs in Bangka reported by the interviewees. Some of the interviewed miners earned even less than that.

⁶ euro = 13,255 Indonesian rupiah (exchange rate in November 2008)

⁷ SÜDWIND Institut, paper ‘Wages in Adidas supplier factories and the cost of living in Indonesia in the period February 2005 - February 2006’, 31 March 2006, available at <http://www.ci-romero.de/fileadmin/download/ccc/indonesien.pdf>

⁸ National Board of Taxation of Indonesia, available at <http://www.pajak.net/blog/2009/06/16/upah-minimum-regional-propinsi-kota-umrumpmk-2009/>

From hand to mouth

FinnWatch met informal small scale miners who seemed to live in poverty despite working hard every day.

A man in his fifties was mining in a small pit next to the road with his son. They worked with a pump powered by an engine and connected to suction pipes. The land belonged apparently to PT Timah. The man was in the process of obtaining a permit to mine there from the company. The two of them produced 6-7 kg of concentrate a day and were paid Rp 30,000 per kg. After fuel costs of Rp 120,000, they earned just 3 euros per person per day. The father told FinnWatch that life was difficult due to low tin prices and the high living costs in Bangka. He used to work for PT Timah for 15 years until he lost his job at the beginning of 1990s.

The tin miners who worked for one of the land owners interviewed had stopped mining for a few days, but there was a man and his wife in their forties spraying water on the soil in his concession. They said that they used to work at a rubber plantation, but had just started to mine in this location due to low rubber prices. They could produce 1.5 kg of concentrate a day and were paid only Rp 20,000 per kg because of low quality ore. They had to work for 10 hours per day. The couple had six children and their income covered only daily food needs.

On Rebo beach on the east coast of Bangka there was a married couple who followed PT Timah's dredger and panned for black residue driven ashore. They had done the same job for many years, collecting 2-3 kg of concentrate a day. Their daily income had decreased to 4.5-7 euros, not enough to support their seven children. During better times, five of their children had finished elementary school, one the 8th grade and one high school. Now the children had left school due to the reduced income of their parents. The couple had to work 8 hours per day seven days a week.



Informal small scale tin miners making 2-3 euros a day.

FinnWatch also talked to fishermen in their thirties on a boat in Air Kantung harbour. Low tin prices had forced them to shift from informal offshore mining to fishing in October 2008. They considered tin mining a much more profitable job than fishing. When prices were still high they could make 50 euros per day. Deposits on the seabed tend to be of a much higher grade than inland. However, the fishermen said that tin sand diving on the seabed is a dangerous job, especially for those lacking experience. The same was pointed out by many others.

At the time of the visit, there were several small boats or platforms operating off the coast of Bangka, carrying tin sand removed by divers from the seabed. Holes dug in the seabed to get the ore could reach a depth of several metres and were often dark and muddy, causing disorientation and visibility problems, especially for inexperienced divers.

Dangerous diving

FinnWatch went onboard one of the small boats used for mining. A young diver, having done this job for a couple of months, showed his flimsy mask connected to a simple air compressor. He only dived to a maximum depth of eight metres for safety reasons. The boat operated separately from the others in order to reduce the risk of entangled tubes and pipes. So far, the diver had suffered only from muscle injuries. He and his work mate produced 3-5 kg of concentrate a day, making around 5 euros per person.

"Many small scale tin mining workers have died on the seabed due to accidents. We lift dead bodies to the water surface almost every week," said a professional diver salvaging corpses from the Bangka to the Jakarta Post newspaper in late 2007.⁹



Tin sand diver with his mask and small boat.

⁹ Jakarta Post, article 'Health check for Karimunjawa's coral reefs', 28 November 2007, available at <http://www.indonesia-tourism.com/news/index.php?s=diponegoro>

3. Income distributed unequally

One would expect local people to be able to make an easy living from mining, stated the 2007 report. Yet, they have only a marginal position in mining management and business. Economic development in Bangka-Belitung is very fragile, since it is based on a non-renewable resource, and there are no investments in other sectors, Jatam continued.

It has been estimated that in 2005 tin production employed some 130,000 people in Bangka-Belitung (which has a population of one million). This number would probably have remained constant in the following years of record breaking tin prices. It is a matter of course that tin mining has brought wealth to the island and its people. Yet, it seems that this income has not been distributed equally among the population.

During the FinnWatch visit in 2008, it could be seen that many have benefited from tin mining: hundreds if not thousands of houses on the road sides in Bangka were brand new or newly renovated and colourfully painted. However, most of these houses seemed to be owned by middlemen such as private land owners, small operation bosses and collectors, who have made a lot of money out of the tin business. Collectors earn a good margin upgrading concentrates to 70 percent tin. They either supply to the big two producers or the independent smelters.¹⁰

Although many local people have succeeded in raising their living standard, small scale miners FinnWatch met lived in poverty and worked very hard in unacceptable and unsafe conditions, even if they had done the job for many years. This proves that mining has not made everybody rich. However, even the poorest miners had been able to send their children to school. One ex-miner told FinnWatch that his child had completed a university degree, although not totally with his financial support.

¹⁰ ITRI Tin Annual Review 2007

Enriched middleman

FinnWatch met a private land owner in his fifties living in one of the newly built houses. The meeting started spontaneously. He was kind enough to invite us into his spacious living room equipped with a large flat panel television and elegant wooden furniture.

The land owner licensed some 20 artisanal miners to operate on one hectare of his land and sold tin concentrate to a collector connected to PT Timah. The price paid by the collector had been at its maximum Rp 73,000 (5.5 euros) per kg, but at the time of the visit it had dropped at Rp 47,000 per kg. The land owner paid his workers Rp 15,000 (1 euro) per kg. Until September 2008 he had produced 2 tonnes of concentrate a week, now it was less. It can be calculated that after production costs (40 percent) he still earned some 5,000-10,000 euros a month. When the prices were highest, he probably made 20,000 euros a month. Before mining he had been involved in the construction business.



A land owner's newly built house and his mining land concession.

4. Large scale operations

FinnWatch visited PT Timah's large scale mining operations both inland and offshore as well as their smelter, the biggest on the island. PT Timah is the leading producer of Indonesian tin. The Indonesian government owns 65 percent of the company, while the remaining 35 percent is owned by private shareholders. PT Koba Tin is the number two tin company in Bangka, owned by Malaysia Smelting Corporation and PT Timah.

Until 2000, all Indonesian tin was produced by PT Timah and PT Koba Tin. The leases of the two companies cover some 20-25 percent of the land area. It is clear that state-owned PT Timah accounts for a very high proportion of legitimate mining area inland.¹¹ However, offshore dredging already accounted for 30 percent of PT Timah's total mine production in 2008. The company expects this proportion to rise up to 50 percent in the next year or two.¹²

FinnWatch visited one of PT Timah's inland sites of 40 hectares in the north east Bangka near Mapur. The site produced one tonne of concentrate (c 60 percent tin) a day. The ore containing alluvium was pumped to and washed in a separation tower. The residue water flowed down to basins and was circulated back to the mining area. According to PT Timah the water did not harm the environment and its quality was monitored. Mining operations in Mapur will be continued for many years. In addition to that, PT Timah operates three similar sites in Bangka.



PT Timah's inland mining operations: separation tower and residue water outlet area.

PT Timah used to be a big employer in the islands until the mid-1990s, when the company collapsed because of low tin prices and 15,000-20,000 people lost their jobs. Some of the interviewed informal miners were former PT Timah employees. Indeed, the current industrial operations did not seem to be very labour intensive. PT Timah's Mapur site employed only 50-60 workers. PT Timah buys tin ore also from around 40 contractors.¹³

¹¹ ITRI Tin Annual Review 2007

¹² ITRI News: 'Police stop four Indonesian dredges', 18 March 2009

¹³ Interviews with Mr. Surawardi and Ms. Dessy Rostyati, PT Timah, 6-7 November 2008

Same site - two realities

FinnWatch interviewed two PT Timah miners in Mapur. Both were in their fifties and wore helmets and safety boots. They had been employed by Timah for 30 years and earned 190 and 230 euros a month respectively. Both were satisfied with their salaries, being particularly happy with their health insurance. One of their colleagues had recently been sent for heart surgery in Jakarta - at PT Timah's expense. Neither miner had had serious accidents. They worked in two shifts (7-14 and 14-21) of four days on and two days off.

Next to PT Timah's operations there was a group of people panning for tin by a pit filled with milk-like water. They worked there with the company's permission, collecting tin ore from old residues. Each of them collected 1-2 kg of concentrate and made 3-4.5 euros a day. One 45-year-old man, who had a family in Java, told FinnWatch that his income was not enough to support his family, but better than nothing. The group sold the concentrate to a collector (an argument between the company staff and the group arose about whether this collector was linked to PT Timah or not). The group hoped to work at the site for as long as possible.



Company miners and a group of informal miners at Mapur site.

In addition, FinnWatch visited one of PT Timah's 14 big dredgers located 2.5 km offshore near Sungailiat district. These bucket ladder dredgers operate around the island at depths of up to 50 metres below sea level.¹⁴ One dredger produces 200 kg of concentrate (c 40 percent tin) a day. According to PT Timah, the environmental impact (turbulence) reaches 300 metres, but is monitored and does not harm fish and other marine life. After moving dredgers to other locations, sediment piles are pushed back into the excavations with the help of a special vessel.¹⁵

The dredger visited was like a big ship that was removing sediment from a depth of five metres on the seabed above tin deposits. The buckets lifting material from the seabed were about one metre in diameter. According to PT Timah the total capacity per dredger is 500 bcm (bank cubic metres) of sand per hour.¹⁶ There were 10-15 men working on the dredger. The noise level onboard was disturbing. The turbulence of the water caused by the outlet pipes was clearly seen.

The International Institute for Environment and Development (IIED) reported in 2001 that the Bangka-Belitung coast area is suffering from abrasion and erosion due to the number of holes in the seabed caused by coastal mining (sea dredging) and that many coral reefs were destroyed.¹⁷ The same was asserted more recently by the Bangka-Belitung Marine and Fishery Service (see Ch. 6), but blame here was also apportioned to informal small scale mining boats.

FinnWatch also visited Bangka's biggest tin smelter in Mentok belonging to PT Timah. The plant was modern, but it was difficult to breath close to the furnaces because of fumes and hot air. The workers used protective equipment such as masks. The smelting process uses only tin sand, coal and calcium. The funnels were equipped with filters and the air did not seem to be polluted.

According to information received by FinnWatch, independent smelters do not use adequate filters and may pollute the air around the main city of Pangkalpinang. One independent smelter that was approached, namely Bangka Global Mandiri International, refrained from giving an interview to FinnWatch. In addition to PT Timah's and Koba Tin's smelters, only two independent smelters exported tin at the time of the visit from the islands out of 22 that had permits.¹⁸

¹⁴ ITRI News: 'PT Timah invests in offshore production', 5 November 2007

¹⁵ Interview with Ms. Dessy Rostyati, PT Timah, 7 November 2008

¹⁶ PT Timah Annual Report 2007, p. 49

¹⁷ Aspinall, C., report 'Small-Scale Mining in Indonesia', Mining, Minerals and Sustainable Development MMSD/IIED, September 2001, available at http://www.natural-resources.org/minerals/cd/docs/mmsd/asm/asm_indonesia.pdf

¹⁸ Reuters, article 'UPDATE 2 - Indonesia Nov tin exports fall, smelters to reopen', by Dwi Sadmoko and Yayat Supriatna, 5 December 2008,



PT Timah's bucket ladder dredger dredging tin sand from the seabed.

5. Witnessing craterlike landscapes

The 2007 report emphasized the environmental destruction in Bangka-Belitung caused by uncontrolled tin mining. The chapter was descriptively titled “Tin has marked Indonesian islands”, meaning that in places the land resembles a lunar landscape with gaping pits. However, neither FinnWatch nor Jatam had had an opportunity to visit the islands and witness the craterlike environment until now.

The land of Bangka is heavily damaged. Several pits left unrestored and filled with unhealthy water could be seen around the island. One PT Timah manager¹⁹ told FinnWatch that he had taken pictures from a plane every time he landed on Bangka to document deforestation. It has been estimated that there are 6,000 similar gaping pits in Bangka, covering perhaps ten percent of the land and forest area.²⁰ Some of them originate from the Dutch colonial period (1816-1942), when industrial mining began and small informal mines were prohibited.

The pits are ideal breeding grounds for disease-carrying insects. The 2007 report noted that malaria became a serious threat to health in Bangka-Belitung a few years ago. This information was confirmed when talking with people on the island. All PT Timah workers had monthly health examinations for the disease. A local journalist, having lived in Bangka for just two years, had suffered from malaria.



Craterlike acidic lakes and pits on the island.

¹⁹ Interview with Mr. Surawardi, PT Timah, 6 November 2008

²⁰ Erwiza Erman, paper ‘Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island’, 2007, p. 17, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

Although local regulations contain a provision requiring reclamation, this is apparently not done. Areas that have been mined out are simply left as gaping pits. Hoping to reap immediate profits, financiers, collectors and the miners themselves are racing to find places with tin deposits, whether on land, in the rivers, or along the coast. The informal miners encroach on protected forests, residential areas, plantations, etc. They also encroach on the former mining locations of PT Timah that have been reclaimed.²¹

According to the governor of the province, efforts to restore land damaged by mining have been proceeding very slowly. It takes a long time and could cost 400-800 euros per hectare to rehabilitate the land.²² The governor says also that the total amount of recovered land has reached around 1,900 hectare in Bangka, partly re-exploited by PT Timah.²³ Mining concessions of PT Timah cover around 250,000 hectare (inland) in Bangka.²⁴ Most TIs operate either within PT Timah's leases or in locations, notably the shoreline, where mining is theoretically banned.²⁵

PT Timah told FinnWatch that its land reclamation programme is hindered by informal miners, who dig up rehabilitated mining areas. However, it was not clear how much of the company's reclaimed land had been destroyed. PT Timah reported that it has carried out flattening of a reclamation field with a total area of 1,600 hectares in Bangka²⁶. This could mean that re-vegetation has not been done. Also, the local government told FinnWatch that it is difficult to assess whether PT Timah's reclamation has been successful, because the plants are still small. FinnWatch however saw one post mining area given to the local government and turned into a palm oil plantation by a foreign investor after it bought the land.

PT Timah's non-current liabilities (debt not due to be paid within the next year) for environmental reclamation expenses amounted to 3.9 million euros in 2007.²⁷ With this amount of money 5,000-10,000 hectares could be restored, which is only a few percent of the company's concessions. PT Timah's net income in 2008 was around 100 million euros.²⁸

To tackle the problem, the Bangka-Belitung provincial government has founded the Green Babel Program, which covers rehabilitation of critical land, rehabilitation of mining areas and utilization of idle land. PT Timah has pioneered trees planting as part of the programme. At least 8 hectares in Bangka Induk area are covered by it.²⁹

²¹ Erwiza Erman, paper 'Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island', 2007, p. 17, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

²² Reuters, article 'Indonesia needs to regulate tin output', by Ed Davies and Fitri Wulandari, 22 August 2008

²³ Eko Maulana Ali (Governor of the Province of Bangka-Belitung), keynote address at the 2008 International Tin Conference, Hong Kong, 17 April 2008, available at <http://kriopanting.blogspot.com/2008/04/eko-maulana-ali-speaking.html>

²⁴ PT Timah Annual Report 2007, p. 37

²⁵ ITRI Tin Annual Review 2007

²⁶ PT Timah Annual Report 2007, p. 76

²⁷ PT Timah Annual Report 2007, p. 69

²⁸ ITRI News: 'Timah confirms earnings slump', 30 March 2009

²⁹ PT Timah Annual Report 2007, p. 8-9

6. Destruction of coral reefs

According to a new publication, in the last 10 years fishermen in the area have complained about the significant drop in their catches because of the presence of floating tin mining platforms (TI apung). Rivers in the Pangkalpinang area are no longer swimmable because they are heavily polluted with solar fuel and soil, not to mention sedimentation.³⁰ According to the local government, the most serious environmental problems in Bangka are muddy rivers and the polluted shoreline.³¹

The damage to the environment caused by tin mining also extends to the sea. Our 2007 report talked about how destructive mining methods are to fragile coral formations. FinnWatch saw several (perhaps 20) TI small boats operating close to Sungailiat district. More boats were seen when driving along the east coast. Uncontrolled operations of this kind (together with dredgers operating in deeper water) are damaging the marine environment.

The head of the Bangka-Belitung Marine and Fishery Service has stated that around 30 percent of local coral reefs have been damaged due to illegal tin mining and fish poaching using explosives. He further asserted that in Bangka in particular, coral reef damage was due to floating mining activities which used boats off the coast to extract tin ore up to a depth of 30 metres.³² According to the governor, there have been dredgers in Bangka from before the Second World War.³³

The most important environmental restriction is probably a ban on mining within 600 metres of Bangka's shoreline, but this has rarely been enforced.³⁴ According to the information FinnWatch received from diving miners, small boats were allowed to operate if each of them delivered 1 kg of concentrate a day to the navy for "protection".

It is estimated that about 20 tonnes of fish can be obtained each year, enough to feed 1,200 people, from one square km of healthy coral reef. The Indonesian Friends of the Earth Walhi reported in early 2009, that the income of fishermen in some villages (south Bangka) has decreased by 80 percent.³⁵ Fishermen that FinnWatch met at Air Kantung harbour (east Bangka) said that they were still able to catch a lot of fish 6-10 km from the coast. Coral reef damage could very negatively affect the province's economy.

³⁰ The Henry L. Stimson Center, report 'Exploiting Natural Resources - Growth, Instability and Conflict in the Middle East and Asia', 2009, p. 43

³¹ Interview with Mr. Amir Sabana and two of his colleagues, Sungailiat district mining department, 7 November 2008

³² Antara News, article 'Indonesia's coral reef damaged', 4 September 2007, available at <http://www.antara.co.id/en/arc/2007/9/4/coral-reef-in-bangka-belitung-damaged/>

³³ Eko Maulana Ali (Governor of the Province of Bangka-Belitung), keynote address at the 2008 International Tin Conference, Hong Kong, 17 April 2008, available at <http://kriopanting.blogspot.com/2008/04/eko-maulana-ali-speaking.html>

³⁴ ITRI Tin Annual Review 2007

³⁵ Friends of the Earth Netherlands, report 'Mining matters - Unacceptable metal mining in developing countries and the responsibilities of companies in the Netherlands', by Albert ten Kate, May 2009, p. 19



Small scale tin boats dot the protected coastal line.

7. Mining boomed until late 2008

During the visit, FinnWatch was told that informal small scale mining had attracted a lot of people outside of Bangka. According to a local journalist, "everybody mined" on the island a few months back. It seemed that a majority of artisanal miners had stopped their operations in September 2008 because of low tin prices and that only those who did not have any other option continued mining in Bangka.

In addition, the onset of the monsoon season and closer cooperation between PT Timah, the governor and the police to control illegal mining might also have limited mining activity in the island. Yet it was not difficult to locate small scale mining operations, both inland and offshore. There were still a lot of people mining, many of them being newcomers from outside Bangka. Local government officials estimated that 10,000 people were still engaged in local mining.

As the 2007 report described, the mushrooming of the informal small mining sector is a new phenomenon. It took off in Bangka-Belitung in the late 1990s and reached its peak in 2005, when an estimated 130,000 people were mining³⁶. In 2003 the duopoly of PT Timah and PT Koba Tin was challenged by the establishment of independent smelters. This was due to the efforts of the central government to maximize its export license revenues as well as to control small mining and smuggling by banning the export of concentrates.³⁷

Tin mining in Indonesia reached a peak of 140,000 tonnes in 2005, of which about 85 percent came from small scale mines.³⁸ ITRI estimates that Indonesia's tin output in 2008 was no longer more than 90,000 tonnes and is likely to fall further in 2009.³⁹ In 2008 PT Timah produced around 50,000 tonnes of refined tin⁴⁰, PT Koba Tin about 7,000 tonnes⁴¹ and independent or overseas smelters the remaining 30,000 tonnes.

It has been reported that 75-85 percent of the production from big companies is derived from partnerships, in other words, purchased from TIs (and contractors) operating on their leased land. This proportion has dropped however, due to among others things, the expansion of offshore production. The visit showed that big companies still buy tin ore from informal operators and do not have adequate management mechanisms in place to control their TI suppliers, their working conditions, locations, licences, etc.

³⁶ FinnWatch, report 'Connecting Components, Dividing Communities – Tin production for consumer electronics in the DR Congo and Indonesia', December 2007

³⁷ ITRI's Tin Annual Review 2007

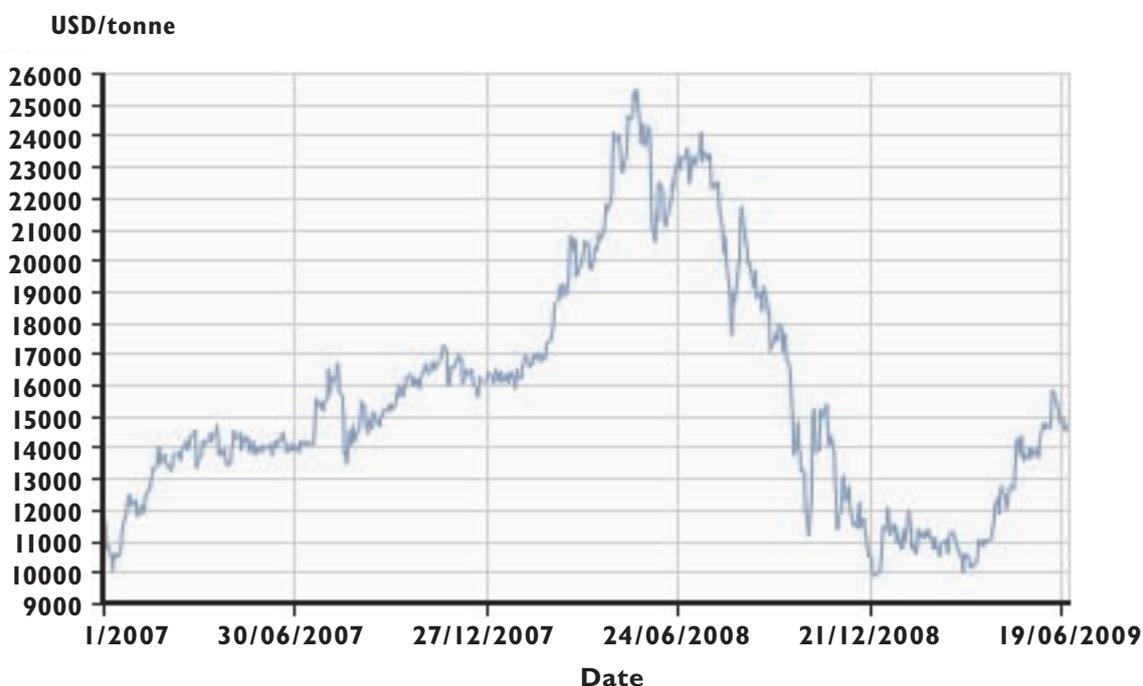
³⁸ ITRI's Tin Annual Review 2007

³⁹ ITRI News: 'Indonesia ministry publishes optimistic tin target', 23 February 2009

⁴⁰ ITRI News: 'Timah profit and production fell in 2008', 28 January 2009

⁴¹ ITRI News: 'Koba Tin boosts mine production', 6 January 2009

Dramatic price drop



The London Metal Exchange (LME) tin price graph January 2007 - June 2009.

The global financial crisis has affected all commodity prices including tin metal. Tin prices peaked at 25,000 USD/tonne in May 2008, but at the time of FinnWatch's visit (Nov 2008) had dropped by 40 percent. During early 2009 tin prices have continued to spiral downwards. By April 2009, they had dropped by 60 percent from their peak in May 2008. The price has not been so low since 2006. At the time of writing (Jun 2009) tin prices are recovering.⁴²

At the time of the visit, PT Timah produced about 4,000 tonnes of refined tin a month. Independent smelters produced 2,000-3,000 tonnes a month until October 2008. After that they stopped operating due to the governor's order to do so in an attempt to control decreasing market prices.⁴³ At the time of writing the consortium of the largest independent smelters operates at below half capacity.⁴⁴

Those artisanal miners that FinnWatch met were paid Rp 30,000 per kg of tin ore at the time of the visit. A land owner was paid Rp 47,000 for higher concentrate. It seems that market prices are increasing. Independent smelters say at the time of writing that they pay their local miners Rp 105,000 per kg of tin ore, up from Rp 75,000 in April.⁴⁵ This sounds like a very high price compared to what the small miners and the land owner received in November.

⁴² <http://www.lme.co.uk/tin.asp>

⁴³ ITRI News: 'Indonesian smelter consortium stops production', 17 October 2008

⁴⁴ ITRI News: 'Indonesian production restrained, despite no progress on quotas', 23 April 2009

⁴⁵ ITRI News: 'Indonesian consortium cuts production again', 4 June 2009

8. History of blurred legal and illegal

In the tin mining business in Bangka-Belitung the boundaries between the legal and illegal have become blurred. The illegal economy is embedded in local history and shows its complexity since the recent era of regional autonomy and decentralisation.

In 1717 Bangka tin became an important commodity to the VOC (Dutch East India Company) and was used to make tea containers sold in Europe. This did not prevent local Bangka people from tin mining as an additional source of income, but caused an upsurge of smuggling because they did not have the right to sell tin on the free market. Smuggling was actually a form of resistance against the monopoly, but officers of the Malay state and VOC also smuggled.⁴⁶

During the short British colonial period (1812-1816) the closure of access to tin mining for local people began. The same legal framework of tin mining became the basis for the Dutch colonial period (1816-1942). From then on private tin mines were completely prohibited. The government considered land unused by the population to be owned by the state and ripe for exploitation if it contained tin deposits.⁴⁷ In 1847, more than 80 percent of tin was exported to Amsterdam.⁴⁸

Marginalisation of local people from mining also occurred because they had no tradition of working under contract and the mines were never the main source of income. After Indonesia's independence, the government continued to monopolise tin mining through a state enterprise, which changed its name later to PT Timah. The population responded to the state monopoly by smuggling tin outside Indonesia. Also, the company, police and military personnel were involved in the smuggling especially during the 1970s and 1980s. Many were killed or jailed.⁴⁹

Since 2001 the decentralisation process has created a number of regulations leading to conflicts between authority, business and other actors. The central government wanted to maintain its power in PT Timah, while the regent's policy gave a chance for local entrepreneurs to establish mining and smelting businesses.⁵⁰

The central government regarded the local smelting companies as illegal because they collected tin sand from informal miners, did not pay tax and had no mining authority. On the contrary, the local government includes smelting as part of the industrial process that can be given permits without having mining authority. This shows that the plurality of regulations and the illegal economy have emerged from regional autonomy. By issuing different regulations, the central and local government as well as the governor and regent, have created differing definitions of what is a legal and illegal economy.⁵¹

⁴⁶ Erwiza Erman, paper 'Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island', 2007, p. 1-6, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

⁴⁷ *Ibid.*, p. 7-9

⁴⁸ Eko Maulana Ali (Governor of the Province of Bangka-Belitung), keynote address at the 2008 International Tin Conference, Hong Kong, 17 April 2008, available at <http://kriopanting.blogspot.com/2008/04/eko-maulana-ali-speaking.html>

⁴⁹ Erwiza Erman, paper 'Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island', 2007, p. 10-12, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

⁵⁰ *Ibid.*, p. 14-23

⁵¹ *Ibid.*, p. 20-23



Informal small scale mining in Bangka.

9. Conflicts between different actors

It is well known that there has been a long and "unfriendly" relationship between PT Timah and the local government.⁵² There has also been competition for tax remissions between central and local government as well as a conflict of interest between the governor (ex-director of PT Timah) and the regent. This regent was recently elected as the Bangka-Belitung governor for 2007-2012 term⁵³, so the political situation has somewhat changed. The aggressive economy has given rise to conflicts also within and between the mining and non-mining communities.

According to PT Timah staff, most of the environmental problems in Bangka are caused by informal small scale miners. The human resources and environmental directors⁵⁴ were angry at the miners especially because they had destroyed some of the company's rehabilitated areas where mining had been stopped. PT Timah staff also complained because the company is often accused of coral reef damage caused mainly by illegal boats, according to them. According to PT Timah the money put aside by local government to deal with environmental damage is insufficient compared to the revenue they receive from tin mining.

The local government officials⁵⁵ that FinnWatch met pointed out that PT Timah should take responsibility for the environmental damage, because small miners operate mostly on its concessions. FinnWatch got the impression that the local government has not channelled money into reclamation, even though mining also takes place in the protected forests and on the coast. On the contrary, officials claimed that there is very little or no illegal mining taking place in protected areas. In their opinion, informal miners have not done a lot of harm, because they operate on PT Timah's land, that is already damaged.

There has also been an uneasy relationship between PT Timah and independent smelters. The 2007 report described how the central government tried to clamp down on illegal operations by closing down independent smelters and arresting their owners in 2006. The action was extended to PT Koba Tin. As a result, PT Timah became the sole legal purchaser of the small mines production. Ultimately the charges were dismissed and smelters re-opened. It is important to note that there was very little direct action taken against the miners themselves due to concerns about possible social unrest.

People have been wondering why the police only arrested managers of the smelters, although PT Timah and PT Koba Tin are big buyers of tin ore produced by informal miners.⁵⁶ The 2007 report noted that PT Timah contractors also often buy tin from artisanal miners in order to meet production targets and earn a bonus. PT Timah has accused collectors of independent smelters of aggressively buying tin ore from the company's fostered miners and has a security corps of 500 people to tackle the issue. According to PT Timah thousands of informal miners operating on its leases have been turned into legal miners⁵⁷, but it appears that working conditions have not improved.

PT Timah possesses huge concessions for historical reasons. Many informal miners that FinnWatch spoke to operated on their own leases. Half of the miners who knew the contacts of their collectors reported that PT Timah was the end buyer.

⁵² Ibid., p. 15

⁵³ http://en.wikipedia.org/wiki/Eko_Maulana_Ali

⁵⁴ Interview with Mr Surawardi and Ms Dessy Rostyati, PT Timah, 6-7 November 2008

⁵⁵ Interview with Mr Amir Sabana and two of his colleagues, Sungailiat district mining department, 7 November 2008

⁵⁶ Mining Top News, article 'Indonesia police probe Koba Tin for illegal mining', 24 January 2007, available at

<http://www.miningtopnews.com/indonesia-police-probe-koba-tin-for-illegal-mining.html>

⁵⁷ PT Timah Annual Report 2007, p. 25, 72

10. How are tin revenues shared?

From the Dutch colonial period to the New Order regime (1966-1998), tin contributions from Bangka in the form of royalty and taxes went mostly to central and provincial governments. The new tin mining regime of the regent has made an extraordinary contribution to locally-generated revenue. However, there have been unintended consequences such as violence and environmental destruction. In addition, there has been no concern for the working and living conditions of the miners.⁵⁸

The Ministry of Trade grants the export licences for tin metal shipments against a royalty of 3 percent. At the time of writing it has allowed 28 smelters to export the metal.⁵⁹ Under a new mining law, the central government will also receive 4 percent of the net profits of mining companies operating in so-called state reserve areas, while 6 percent of the net profits would go to local administrations.⁶⁰ PT Timah's 2008 net profit of 100 million euros would alone transfer 6 million euros to the provincial and district government.

The local government (mining department in coordination with the industrial and environmental department) issue mining permits. Permit holders must deposit an environmental bond payment into the government's account, returned after reclamation, as well as have a minimum land area of 5 hectares.⁶¹ The land owner interviewed had just paid Rp 100 million (7,500 euros) for the permit and collateral fee. Through this system the government could get millions of euros annually in revenue. However, it did not become clear what the detailed plans and budgets are that the local government has for cleaning up the island, community development, etc.

The income of those small scale miners interviewed varied between 60-140 euros a month. Mining from the sea was more profitable than inland and could even bring monthly earnings of hundreds of euros per person, when the prices were still high. According to some sources also they give money to the local government and police, but government officials denied this information. Maybe some 20 million euros remained in the local economy last year as income from small scale miners.

At the time of the visit, the land owner we spoke to was making some 5,000-10,000 euros a month from his tin mining business. He had probably been making as much as 20,000 euros a month when prices were still high. However, it remained unclear whether the land-owner had to pay taxes or royalties out of his revenue and to whom. When comparing his income with that of miners, it seems that middlemen make 50-100 times more money than small scale miners.

It seems also that the police and navy are involved in the tin business. If this is the case and if there are for example 200 small boats operating in the waters of Bangka each of them submitting 1 kg of concentrate per day for "protection", the navy had a potential monthly revenue of 20,000 euros from offshore tin mining.

⁵⁸ Erwiza Erman, paper 'Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island', 2007, p. 16-21, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

⁵⁹ ITRI News: 'New Indonesian smelter gets export licence', 1 June 2009

⁶⁰ ITRI News: 'Indonesia approves one more tin exporter, passes mining law', 16 December 2008

⁶¹ Interview with Mr Amir Sabana and two of his colleagues, Sungailiat district mining department, 7 November 2008

II. Need for alternative livelihoods

Although tin mining has made a major contribution to the local economy and has been estimated to account for 31 percent of regional GDP,⁶² the miners are very vulnerable to the fluctuations of global market prices, as was seen during the visit. The closure of mines could lead to social and economic disturbance, or even collapse. Authorities in Bangka have been keen to see local people shift to other sectors such as trade and fishing. "People have to be prosperous without tin", Bangka-Belitung's ex-governor has pointed out.⁶³ In 2008 about 40 percent of the island's workforce was involved in tin mining.⁶⁴

It is not just because of plunging prices that locals should be given other economic alternatives to meet their basic needs. Another reason beside the environmental destruction is that it is getting more difficult to mine tin because reserves are depleting. A director of an independent smelter recently expressed his concern about the quality of the raw material, saying that miners now had to dig down to 20 metres to find tin ore, compared with 5-8 metres in previous years.⁶⁵

Bangka is also famous for its pepper plantations, which were especially prosperous during the late 1980s. However, since then the price of pepper has dropped dramatically, affecting the local economy and making people to turn to mining.⁶⁶ Many of the island's inhabitants are still farmers, fishermen and boat builders. Others are craftsmen, producing cane work, plaited mats, porcelain and ceramics. Many people who live around the cities have become traders and merchants. The role of small businesses and cooperatives needs to be increased.⁶⁷

Food products such as fish crackers and durian fruit seemed to be famous Bangka products. Also, Indonesians and foreigners often visit Bangka because it has beautiful beaches. This would support the idea of developing regional tourism. It is also important to secure the long-term health of coral reef resources and ensuring survival of coastal communities. It seemed that the agricultural sector is still losing workers due to the easy and quick economic gains to be had in tin mining. For example, FinnWatch met rubber plantation workers who had become miners.

PT Timah has been criticised for its miniscule contribution to the development of Bangka's economy.⁶⁸ The company has spent around one million euros on its CSR programs in 2007. It supported small businesses in the form of loans (around 800,000 euros) and allocated aid (around 200,000 euros) for education, health care, public facilities, etc., constructing also 100 houses in Bangka-Belitung.⁶⁹ However, when compared to PT Billiton Aquaculture's plans to invest 90 million euros in shrimp ponds in Belitung employing 30,000 workers, Timah's contribution looks modest.⁷⁰

The PT Timah's community development fund (voluntary aid) was only 0.2 percent of its net earnings. It is not known how much PT Koba Tin or independent smelters have contributed to local development (as aid), but probably less than PT Timah. It seems that the local government has the possibility to gain millions of euros through the new regulations, that should efficiently be allocated to the development of alternative livelihoods and protection and reclamation of the environment.

⁶² ITRI News: 'Bangka conference on sustainable mining', 15 July 2008

⁶³ Reuters, article 'Indonesian tropical island torn apart by tin mining', by Lewa Pardomuan, 8 April 2007

⁶⁴ ITRI News: 'Indonesia exports down, but smelters can re-open', 5 December 2008

⁶⁵ ITRI News: 'Indonesian exports, production down', 12 May 2009

⁶⁶ Frontiers, fact sheet 'Bangka of Indonesia', available at <http://frontiers.org/Websites/frontiers/Images/profiles/Bangka.pdf>

⁶⁷ Ibid.

⁶⁸ Ewiza Erman, paper 'Rethinking Legal and Illegal Economy: A Case Study of Tin Mining in Bangka Island', 2007, p. 21-22, available at <http://globetrotter.berkeley.edu/GreenGovernance/papers/Erman2007.pdf>

⁶⁹ PT Timah Annual Report 2007, p. 114-125

⁷⁰ Antara News, article 'PT Billiton to invest Rp1.2 t in shrimp ponds', 27 March 2008, available at http://www.indonesia.ro/cnews_march08/ek01_270308.html

12. Conclusions

- Most of the miners are not mine owners, but either "sharecroppers" or wage labourers, who work in terrible conditions with no social insurances. There are no reliable data on the number of mining accidents that have caused injury, disability and death, but this number seems to be high according to many interviewed.
- Tin mining has benefited many people, even the poorest miners, who have been able to educate their children. However, it seems many miners have stayed poor and were suffering from the current dramatic drop in tin prices, even if they had done the job for years. The situation of middlemen (such as land owners) was different. They may earn 50-100 times more than the small miners, based on revenue information from the interviewees.
- The environment is seriously damaged by tin mining. Only a few former mining areas have been reclaimed so far. The responsibilities that different actors (companies, miners, land owners, smelters and government) have in this regard are unclear. They tend to blame each other for the problems. There are also unrestored mining pits originating from the Dutch colonial period.
- Mining takes place in prohibited areas such as on the coastal line, but operations are "protected" by different state bodies. It seems that the local government has no control over the mining taking place in protected areas.
- Informal small scale mining is supported by the local administrations. The legality of many small scale mining operations is unclear. Some of them have obtained (or were in the process of obtaining) permits from the companies, some from the land owners, while others had no permits. However, it seemed that everybody buys concentrate even from "illegal" miners, through collectors/contractors.
- There are tensions and conflicts going on between different actors such as central government, local administrations, big tin companies and independent smelters. This is due to the decentralisation process and plurality of regulations, historical power and resistance structures, uncontrolled informal mining, etc.
- All stakeholders, particularly mining operators and local government, should take shared responsibility for the socioeconomic and environmental repercussions of mining activities. The distribution of revenue from mining operations among various stakeholders should seriously take into account equity and justice considerations. More resources should urgently be channelled to environment reclamation and developing alternative livelihoods (traditionally local people have had other livelihoods besides tin mining).

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