



Responsible Mining

Tin

This factsheet is based on two Friends of the Earth reports:
- Grim portraits of tin mining on Bangka Belitung, Indonesia (November 2014)
- Mining for smartphones: the true cost of tin (November 2012)

April 2016



What is the problem?

A third of the tin on the world market comes from the Indonesian province of Bangka-Belitung, which sits to the east of Sumatra and comprises two main islands – Bangka and Belitung. The province has a population of around 1.26 million people and one of the lowest poverty rates in Indonesia. Its economy is resource-dependent, particularly on tin, and this has significant negative impacts on the local population, labourers and the environment:

- Unlicensed miners face significant risks because of inadequate occupational health and safety measures in unlicensed operations.
- Coastal ecosystems, particularly coral, sea-grass and mangrove areas, are being degraded and tin mining is one of the causes. An important factor is offshore operators directly disposing tailings into the ocean, which, even when done at a distance from reefs, is a probable cause of suffocation of coral and sea grass. The spread of sediment from tailings disposal and the extent of marine impact is determined by weather and dredge type; the spread of total suspended solids was recorded by the University of Bangka-Belitung to reach 5,000 square km in windy conditions.
- The stockpiling of rare earths and smelter waste (slugs) containing radioactive elements at some smelters poses a risk to the environment.
- A range of environmental impacts causes concern. However, the extent to which this is caused by mining vis-à-vis other economic activities, and by the different

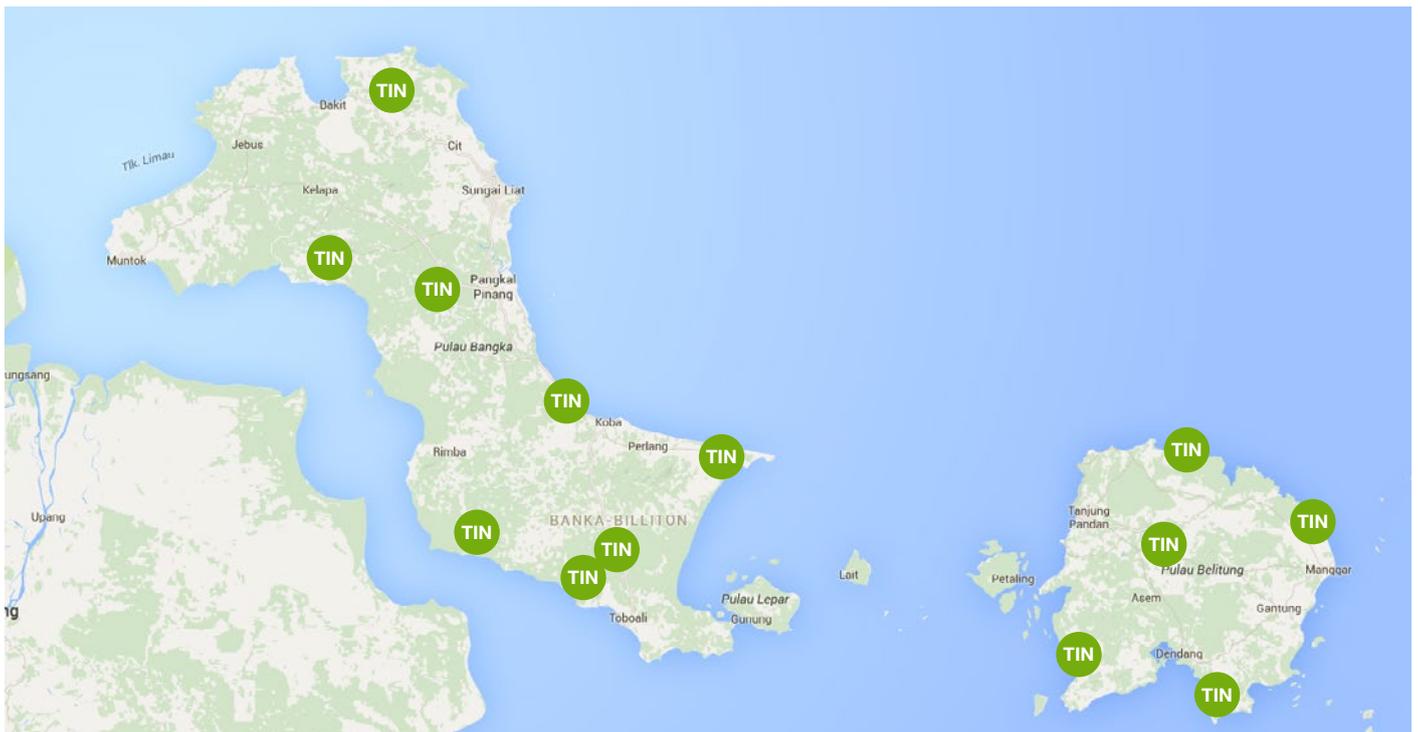
scales/types of mining, is not clear and requires further analysis.

- Unlicensed miners avoid or circumvent the payment of official taxes and royalties, resulting in lost revenue for the government.
- The lack of financial transparency represents a challenge in the tin sector and for governance on Bangka.
- There is a high migrant population in the mining sector in Bangka, and their remittances support families in other parts of Indonesia. Migrant labour is known for its high accident rate, especially as migrant miners are inexperienced and work without the necessary equipment.
- Tin mining is potentially undermining the viability of fishing as a livelihood according to sources within the fisheries sector, representatives of several government ministries and fishermen who have turned to mining.

International framework for responsible business conduct

In tin mining, basic labour rights are neglected, especially by informal miners. Child labour is used, although in most cases only when tin prices are very high and/or by children after school. The United Nations Guiding Principles on Business and Human Rights (UNGPs) and the Organisation for Economic Development and Cooperation's Guidelines for Multinational Enterprises (OECD Guidelines) set clear standards for business enterprises to respect human rights, conduct human rights due diligence and implement measures to prevent, address and redress any human rights violations.

Map of land tin mining on Bangka and Malay (offshore mining not included) Source: Indonesia Traveling Guide



Injuries and fatal accidents when pits collapse

Suge, an unofficial tin miner, suffered a broken arm and leg when the pit he was working in collapsed in August 2012: "It happened about 11.30am. I was washing the tin rocks with water when the sides of the pit collapsed. I tried to get out but I was buried. I thought of my little daughter and I crawled up through five metres of earth to escape. My three friends were killed."

Free Prior and Informed consent (FPIC) is an issue for communities living near mining areas. Communities depend on fresh water for agriculture that is often polluted or silted up by the mining process. Forests that provide resources for surrounding communities have been destroyed, while off-shore mining causes even bigger problems as fish stocks disappear in areas of active mining. Local fisherman lose access to their source of income and are forced to spend time and money fishing further off shore.

Role of electronics companies

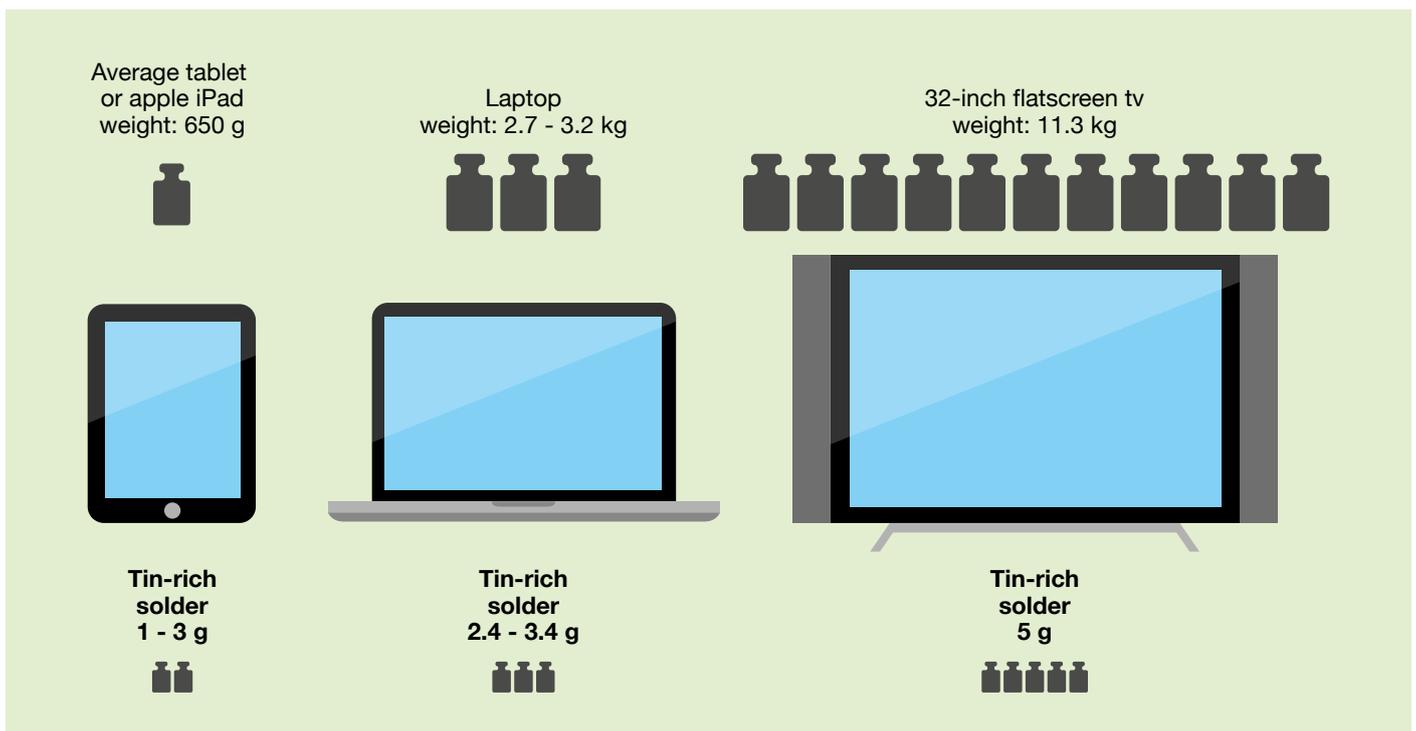
Companies that use minerals in their products (including those on the European market) risk contributing to negative social and environmental impacts through their mineral supply

chains. There is approximately 2g of tin in every phone, but manufacturers rarely disclose where or how they get their tin. The solder that holds together resistors, transistors and integrated circuit boards in all electronics devices is a tin-rich alloy of at least 95 per cent tin plus a little silver and copper. Nearly half of all mined tin is turned into solder for the electronics industry.

Companies that are part of the tin supply chain can demand responsibly mined tin and support their supply chain partners. To do this, a working group was set up in 2014 by IDH Sustainable Trade Initiative. The purpose of the Tin Working Group is to explore how its members can positively contribute to addressing the sustainability challenges of tin mining in Bangka and Belitung while also recognizing the economic benefits of the sector in terms of development and poverty reduction. Unfortunately, most purchase managers in electronics and other companies that use tin (such as tin can, automotive and aviation companies) are not aware of the issues at hand and the role they can play in tackling these issues.

Participating members of the IDH Indonesian Tin Working Group from the EICC include Apple, BlackBerry, LG Electronics, Philips, Samsung and Sony. The group was joined at a later date by the international tin industry association (ITRI). The companies aim to support their supply chain partners to continue sourcing tin from Indonesia in a way that aligns with sustainable growth and responsible mining practices. This is a difficult and complex governance issue, which requires action from all stakeholders, including governmental agencies, development agencies, NGOs and industry. The Tin Working

Source: Friends of the Earth



Group works with local stakeholders, such as tin smelters and miners and the Government of Indonesia, to explore and support pathways towards a more sustainable tin sector. A roadmap has been agreed – some elements of which are: strengthening the economy through rehabilitation (restoration of land); research into low-impact techniques for offshore mining; and strategies for enhancing risk management at mine sites.

What can electronics companies do?

Electronics companies can finance projects and participate in lobbying authorities to ensure that market forces support the transition towards more responsible mining. Although supply chains are long, consumer brands can set quality criteria for the minerals contained in the components and solder used

in their products. For tin, solder manufacturers are key actors in the supply chain. If they use (a certain percentage) of responsibly mined tin in their solder products, manufacturers can choose to use these products and thereby create a market for responsibly mined tin.

More information

Friends of the Earth reports:

- Grim portraits of tin mining on Bangka Belitung, Indonesia, November 2014
- Mining for smartphones: the true cost of tin, November 2012
- IDH Sustainable Trade Initiative: The IDH Tin programme www.idhsustainabletrade.com/mining-and-minerals

Colophon

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The GoodElectronics Network brings together trade unions, grass roots organisations, campaigning and research organisations, academia, and activists who are concerned about human rights, labour rights, and sustainability issues in the global electronics supply chain. GoodElectronics sees it as its mission to contribute to improving corporate and public policies and practices with regard to protecting and respecting human rights and the environment in the global electronics supply chain, with a specific focus on big brand companies.

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