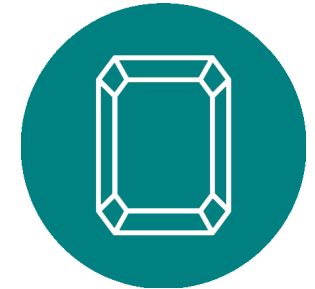




The Red & Green Book



5. Gemstones:

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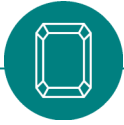


MODULE 5:

Section I: THE CHALLENGE



'Sapphire Miner' Sri Lanka | Photo: Unknown



The Challenge :

“The foundations of the wall of the city are adorned with every jewel; the first was jasper, the second sapphire, the third agate, the fourth emerald, the fifth onyx, the sixth cornelian, the seventh chrysolite, the eighth beryl, the ninth topaz, the tenth chrysoprase, the eleventh jacinth, the twelfth amethyst. And the twelve gates are twelve pearls.”

The Revelation of John

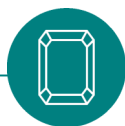
There are gemstones of every colour, to suit every emotion and every fashion from the red of ruby, blue of sapphire and green of emerald to the rainbow of lesser-known gemstones.

Customers may have a favourite gemstone or a favourite colour but may have little idea of how or by whom the gemstones have been mined.

The coloured gemstone industry is the area of the jewellery industry for which we have the least amount of supply chain information. It is estimated that more than 70% of all gemstones are mined by artisanal and small-scale miners.

Small-scale mining is generally defined as that which is local and where miners are usually made up of local communities using little or no modern technology.

Artisanal miners are often not full-time miners, but spend part of the year tending their crops, looking after their livestock or working elsewhere. They are generally retrieving gemstones from alluvial deposits such as mud and river gravels rather than from the solid rock in which the gemstones formed.



Retrieving the gemstones usually involves dredging or panning riverbeds or digging in unconsolidated ground using traditional methods such as collecting baskets of soil, washing, sieving and finding the gemstones by eye.

Mining in this way can be labour intensive and the outcomes are not certain. Miners may toil for many days without success, profits for the miners may be small and payment for those employed may result in meagre wages and a poor livelihood. Working conditions may be unsafe and working practices dangerous; for example the collapse of hand dug mines which could bury miners and result in injury or even death. Those who derive the most economic benefit from coloured gemstones are generally those further up the supply chain: the dealers and traders, the manufacturers and the retailers.

One of the key principles of fair trade is that the miners receive a greater proportion of the wealth created by their endeavours than they do at present.

Yet there are also some excellent examples of gemstone business practices that are demonstrating that with a little thought and attention to detail, best practice in social and environmental issues can be delivered in the gemstone industry.

If customers ask you about the source of a gemstone, the country of origin and the working conditions at the mine and how the mine has affected the local communities and the environment, will you know the answers?

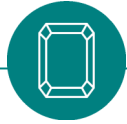


MODULE 5:

Section II: THE INTRODUCTION



'Illegally confiscated Greenland Rubies' Danish Police | Photo: Unknown



The Introduction :

There is something truly dramatic about gemstones. The colour, the vibrancy, the personality of gemstones brings a wonder and excitement to the skill of being a jeweller.

To the customer they hold a meaning and often an association that transcends their price or their gemmological make-up. The investment a consumer makes in a stone is often an emotional and spiritual one.

Of all the minerals and metals that a jeweller handles, the gemstone still retains its unique claim on origin - Colombian emerald, Burmese ruby, Whitby jet, Baltic amber and Sri Lankan sapphire for example. Local and indigenous people may have a special relationship with gemstones from their areas. In Greenland the Inuit refer to the ruby as the 'Inek Amek' meaning the 'eternal fire'; native Americans treasure the properties of turquoise and many New Zealanders are proud to wear a piece of polished green stone (usually nephrite jade) known as Pounamu, which plays an important role in Maori culture.

Gemstones can and always will point us to something beyond ourselves.

Coloured gemstones are some of the greatest treasures the earth can give up for our appreciation.

However, as with all things there can be negative side to the gemstone industry that needs to be understood and acted upon if we are to be able to retain the purity and honesty of our marketing message and product.



'Ruby Sorting' Tanzania | Photo: Ruby Fair



MODULE 5:

Section III :

THE ISSUES



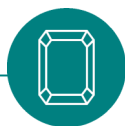
The Three P's:

POLITICS

PEOPLE

PLACE

"Tanzanian Village benefitting from Ruby Fair" Tanzania | Photo: Ruby Fair



References:

1: www.hrw.org/en/reports/2005/06/01/curse-gold

2: <http://www.cafod.org.uk/unearthjustice>

3: www.actionaid.org.uk/102008/search.html?words=Gold+Rush&x=0&y=0

4: www.fairjewelry.org/pdfs/frank-nally-columban-fathers-phillippines-mining.pdf

Within the coloured gemstone industry there are a number of issues that need to be highlighted and challenged if we are going to see ethical improvements in the supply chain.

The issues we face as jewellers include:

POLITICS (political issues including legislation and regulation)

Blood gems (conflict stones) that are used to fund militia in regions of conflict

The legislation and regulations surrounding the legal export of gemstones is made difficult by the lack of transparency and traceability of gemstones

PEOPLE (social issues including local communities and human rights issues)

Some of the major sources of gems come from countries such as Burma that have institutionalised violence and systemic human rights violations

The use of child labour and bonded labour

Health issues in mining and in cutting and polishing shops, for example the disease silicosis

Dislocation and forced removal of indigenous people for example within Greenland (ruby mines) and Tanzania (tanzanite mines)

Disreputable traders exploiting artisanal and small-scale miners

PLACE (environmental issues)

Over 80% coloured gemstone mining is carried out by artisanal and small-scale miners and the environmental impact is rarely given due consideration, but each location is different and we must not assume that the impact of gemstone mining is environmentally benign, with serious deforestation, soil erosion and water pollution with chemicals like diesel all associated with gemstones.



'Artisanal Ruby Miner' Tanzania |
Photo: Ruby Fair



MODULE 5:

Section IV :

THE SUPPLY CHAIN



The Principal Stage:

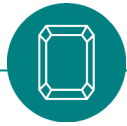
Extraction
Transformation
Retail

**Major gemstone
producing countries of
the world.**

Case Studies

Columbia Gem House Inc
Gemfields

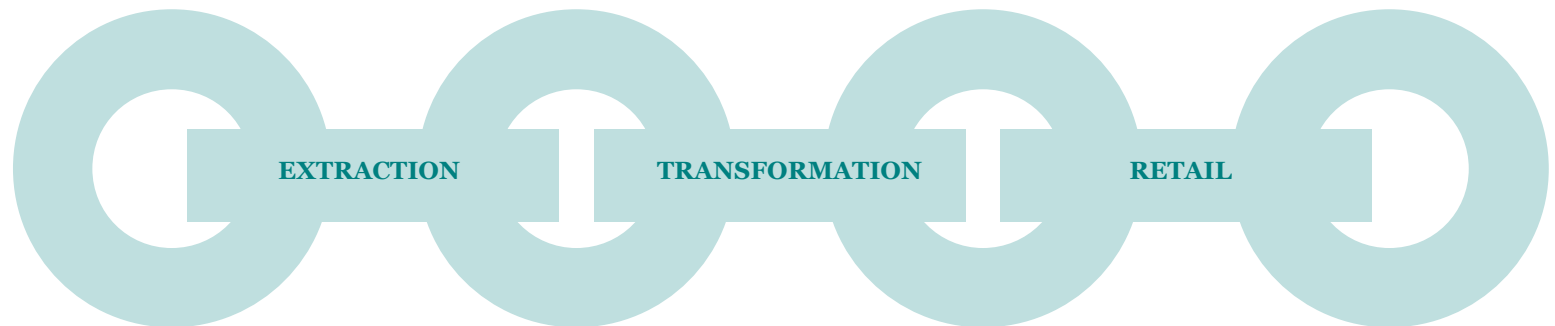
'Golden Rutile Quartz Miner' Brazil | Photo: Brian Cook



The Supply Chain :

To understand the ethical issues in a supply chain, it must first be visually mapped. This way we can get an understanding of how it fits together and we can see where there may be specific areas of concern and at what points there are social and environmental issues that need to be understood and acted upon.

In jewellery there are three principle stages:

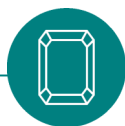


Extraction (mining of the rough material)

Transformation (exporting, certification, sorting and grading, trading, cutting and polishing and jewellery manufacture)

Retail (selling to the customer)

The characteristics of the gemstone industry at source are very different from those of diamonds and gold. The majority of the gold and diamond product comes to market through large-scale mining (LSM), in contrast the coloured gemstone market is dominated by artisanal and small-scale mining (ASM), both in the number of people involved in mining and the overall value of the gemstones retrieved.



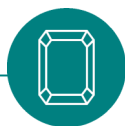
Major gemstone producing countries of the world.

This is not an exhaustive list, as new sources are being discovered all the time, but the list above gives a good idea of the spread of global production and most notably locates the vast majority of production in the poorer southern countries of the world.

Africa	Asia & Europe	The Americas	Oceania
DR Congo	Afghanistan	Argentina	Australia
Ethiopia	Burma	Bolivia	
Kenya	China	Brazil	
Madagascar	Cambodia	Canada	
Malawi	India	Colombia	
Mozambique	Iran	Dominican Republic	
Namibia	Laos	Guatemala	
Nigeria	Pakistan	Honduras	
Somalia	Sri Lanka	Mexico	
South Africa	Tajikistan	Peru	
Tanzania	Turkey	United States	
Zambia	Thailand	Uruguay	
	Vietnam		



'Emerald Sorting' Zambia | Photo: Gemfields



The following supply chain map gives an introduction to some of the social and environmental issues faced in the gemstone supply chain.

1 Artisanal and small-scale mining and large-scale mining

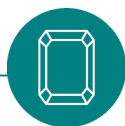
The vast majority of gemstone miners are defined as poor. They work for the landowners who will pay minimal wages for services. Also due to the unregulated nature of the industry there are many illegal miners who make a living through gemstones.

Large-scale mining sources of gemstones are not a majority part of this industry and where they are located they tend to focus on the principle three value stones of ruby, emerald and sapphire for example the Gemfields emerald mine in Zambia.

Large-scale mining operators will generally have a better infrastructure and are better positioned to control their product routes to market. Whereas the artisanal and small-scale miners' means of production is marginal and driven by poverty and therefore open to greater exploitation by disreputable traders.

Environmental impact of mining activity such as deforestation, pollution of river systems, poor sanitation facilities that can lead to cholera, soil erosion etc.





Case Study :

COLUMBIA GEM HOUSE INC

Columbia Gem House, Inc is a US company that prides itself in its adherence to The Quality Assurance and Fair Trade Gems Protocols.

It aims to encompass transparency and traceability in its working practice, by sourcing gemstones from ethically mined sources and tracking their route through the supply chain by using known traders and cutters.

The faceted gemstones are sold with a Columbia Gem House, Inc certificate.

They market their gemstones as Fair Trade Gems.

References:

3: www.columbiagemhouse.com



Case Study

GEMFIELDS

References:

www.gemfields.co.uk

Gemfields is an example of a medium to large-scale mining operation in Zambia.

The company focus is on reliable and ethically produced Zambian emeralds. They aim to uphold fair trade practices whilst maintaining a high level of environmental, social and safety standards.

The company is vertically integrated and follows its emeralds up the supply chain, selling emeralds only to a group of site holders that they have approved.

The intention of this marketing strategy is to enable them to guarantee the provenance of every gem.

Gemfields have also taken care to introduce ethical practice into their dealings with local communities and miners.

They have made anti-retroviral drugs available to those who need them and have ensured that the miners' living conditions are relatively clean and comfortable and health and safety standards are met.





Section V : MEETING THE CHALLENGES

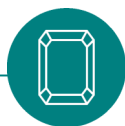


'Rough Emerald' Zambia | Photo: Gemfields

Different supply chain models currently being explored by the coloured gemstone industry

Case Studies

Pounamu
Tanzanite One
Ruby Fair



References:

1: Gemmological Institute of America
www.gia.edu

Richard Liddicoat, the former President of the Gemmological Institute of America (GIA),¹ was once famously quoted as saying: ‘If it’s a good stone, why should it matter where it came from?’

When you have witnessed both women and children working in a garnet mine, miles from a fresh water source for only a few rupees an hour in the scorching heat of the desert south of Jaipur in India, your view may be different.

Some of these workers were bonded labour to the mine owner and overall the situation was intolerable and at the extreme end of human rights violations. The rough material (uncut rocks) was taken to Jaipur to be faceted by young children working in badly lit upstairs workshops.

The gemstones were then set into jewellery to sell to exporters and tourists. The beauty of a stone cannot be divorced from the source. There is no beauty in cruelty.

Different supply chain models currently being explored by the coloured gemstone industry

There are a number of models of good practice emerging within the gemstone trade, with recommended codes of ethics for the practice of the traders set out by some of the trade bodies, the gemstone industry remains the least regulated and accountable sector of the jewellery trade.

In the coloured gemstones industry, there is no equivalent to the Fairtrade and Fairmined standard for gold, or the Kimberley Process that attempts to govern the supply side of the rough diamond industry, so the challenge for the jeweller in the coloured gemstone sector is much greater than with other products.

The Responsible Jewellery Council (RJC) has instigated a set of consultations and draft discussion papers that will address the gold and diamond supply chain, as yet they are silent on the coloured gemstone industry.

Most of the gemstone and jewellery industry relies on trust, trust in the person with whom you deal and trust that ‘my word is my bond’.

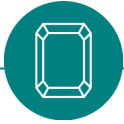
References:

2: For example the British Jewellers' Association Code of Ethics
www.bja.org.uk/ethical-jewellery.php

3: www.fairtrade.org.uk/gold and The Alliance for Responsible Mining (ARM)
www.communitymining.org

4: Kimberley Process Certification Scheme www.kimberleyprocess.com

5: Responsible Jewellery Council (RJC)
www.responsiblejewellery.com



This 'first party assurance' may be backed up with a paper trail including certificates and other documents, but many transactions are still completed on the strength of a handshake.

In an industry where reputation is everything and a business may have been in the family for generations, the trust built up between friends and families is worth a great deal.

The model that relies on trust and 'first party assurance' is sometimes referred to as 'trader disclosure of source'.

Other models being explored follow the track and trace system, which aims to track the coloured gemstones through each stage in the supply chain from the mine to the jewellery shop.

1. Trader disclosure of source

Increasingly, traders who wish to gain the trust of their buyers are beginning to disclose their sources.

This is a welcome development, but in reality it is the baseline minimum that should be in place if a jeweller is looking to improve their ethical credentials

2. Origin of Denomination Brands

Gemstones may have certain attributes that are associated with a particular region or mine for example colour, crystal habit (the shape in which the crystals form), and inclusions. Some companies are actively using this origin of denomination branding to help to create value and trust with regard to their product; for example Tanzanite has the unique selling point that it is only available from one geographical location in the world (the Merelani Hills in the Arusha Region of Tanzania).

3. Product specific rules

Rules, laws and regulations may be introduced by companies or countries in order to protect particular gemstones. In New Zealand legislation protects the export of the green stone known as Pounamu, which plays an important role in Maori culture. ⁶

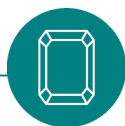
4. Vertically integrated supply chains

Some companies, such as Columbia Gem House Inc, ⁷ and its manufacturing subsidiary Trigem Designs, either own or exclusively contract key parts of their supply chain to only deal in their product, thereby providing warranties and guaranteeing no contamination or corruption of the ethical provenance of their gemstones including sapphire, ruby and emerald which is mined from ethical sources.

References:

6: Ng Tahu (Pounamu Vesting) Act 1997
www.ngaitahu.iwi.nz/About-Ngai-Tahu/Settlement/Settlement-Offer/Cultural-Redress/Pounamu.php

7: Columbia Gem House, Inc
www.columbiagemhouse.com



References:

8: *Tanzanite One*
www.tanzaniteone.com

9: <http://www.gemstone.org/>

Tanzanite One follows the Tucson Tanzanite Protocols using warranties which follow the tanzanite from the mine to the market. ⁸

The weakness in the area of coloured gemstones is that there is no overarching framework that is able to govern the ethical sourcing practices of its members.



Currently there is no fair trade standard or system for the gemstone industry that is third party certified against a public standard.

This leaves the trade bodies and the jewellers to self regulate supply chain practices.

The International Coloured Gemstone Association has established an ethical working group that is actively exploring supply chain issues within the industry. ⁹

Case Study :

POUNAMU

In the 19th Century, the Ngāi Tahu sold land to the Crown but they never intended to give up ownership of the highly-prized pounamu resource.

As part of its settlement about the dispute, the Crown awarded Ng Tahu ownership and management of most of the pounamu in its rohe. This was formalised in the Ng Tahu (Pounamu Vesting) Act 1997. ¹⁰

As the legislation has now been passed, ownership of Pounamu has returned to Ngāi Tahu. Any discovery of Pounamu must be reported to the appropriate Maori authorities and none of the material may be removed from the ground, sold or exported without prior approval. Any raw material that is found anywhere other than in public areas approved for fossil and mineral hunting (fossicking) and/or larger than one can carry, is the property of the Ngāi Tahu and should be notified to the Pounamu Management Officer immediately.

Worked pieces (artefacts) are of particular importance and it is illegal to remove or interfere in any way with the artefact or the site where it was found.

Ngāi Tahu has finalised work on an authentication and traceability system for Pounamu. This system is currently being piloted.

References:

10: www.ngaitahu.iwi.nz/About-Ngai-Tahu/Settlement/Settlement-Offer/Cultural-Redress/Pounamu.php



Case Study

TANZANITE ONE

References:

11: www.tanzaniteone.com

Following allegations that a terrorist group were using tanzanite to fund operations, the Tucson Tanzanite Protocols were introduced in 2002 by representatives from the jewellery industry that joined delegates from Tanzania in declaring the gemstone terror-free.

The protocols are pledges that they issued which were designed to 'strengthen and maintain a system of oversight, control and law enforcement' in Tanzania to ensure that the gem is legally mined and transported.

Written warranties follow each parcel to demonstrate provenance on the stone and trace it from mine to retail. This was done in order to undermine the allegations by proving them false thereby increasing customer confidence in the product, but also adds value to the product.

Tanzanite One ¹¹ follows the Tucson Tanzanite Protocols, but not all exported tanzanite is from the Tanzanite One mines.

Case Study :

RUBY FAIR

Rubyfair is a partnership between British Jewellers and Tanzanian Miners where both the miners welfare, the environment and ecology of the land and the final price to the customer are all given careful consideration.

You can buy Ruby facets, Sapphires and cabochons safe in the knowledge that both the miners and the land are given due care and reward.

Landscape and the environment.

Although the area had been small scale mined for Ruby for years Rubyfair had a policy to leave the claim in no worse and preferably better state than when operations began. The two principle areas of concern were sediment run off due to sieving for alluvial ruby deposit in soil and landscape alteration due to blasting of open cast Ruby seam.

1. Water is sourced from on site spring, resulting in no degradation of local water supply.

References:

3: www.rubyfair.com



2. Storage of water from spring overnight in water tanks. (This has added benefit to locals who have constant clean water supply).
3. Resettling of water to allow multiple usage, then natural resettlement through rock course resulting in no sediment joining water course and no removal of top soil.
4. Top soil from pit was placed adjacent to pit to allow fertile planting for farmers who utilise the valley as they have done for centuries for planting local crop such as sugar cane, bamboo for local house construction and various vegetable food crops. In allowing them access, other areas of valley were saved from clearing as is the tradition, the top soil is anchored at location and after one years crop, returns to fallow condition which allows natural plant growth to quickly re-establish.
5. Rock initially removed from Ruby seam is placed as back fill as movement becomes horizontal so that as progress is made along mine site rock is replaced in situation.

Noise reduction.

Although in a very remote location noise from blasting ruby seam was to be at agreed times with a warning system via whistle, personal visit and synchronized clearing blast only allowed once every two weeks and not to take place early morning or weekends.

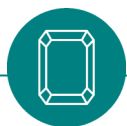
In actual fact due to exposed nature of Ruby seam anticipated blasting has been greatly reduced with occurrence being reduced to less than one day a month.

Sub aqua electric pump driven by new generator housed in natural pit with bamboo roof covering means no real audible working sounds apart from normal chatting and vocalisation of the Ruby mining team.

Walkie talkies were introduced to save shouting across mine site plus a lot of leg work.

References:

3: www.rubyfair.com



Key Steps :

Key steps to take to improve your ethical sourcing of coloured gemstones.

- 1. Secure full disclosure of source from your stone suppliers.** If the supplier is unwilling to disclose source, then plan over time to change supplier.
- 2. Join a gemstone trade association** and familiarise yourself with their policies on ethics in the supply chain.
- 3. Open accounts with gemstone companies who can demonstrate vertically integrated supply chains** from the mine to the jeweller (from the source to retail) and can offer full disclosure on sources through a system of warranties.
- 4. Write to the Fairtrade Labelling Organisation** asking them to begin a process on certifying gemstones and diamonds from alluvial and small-scale sources as fairtrade.

Case Study :

TAWOMA, THE TANZANIAN WOMEN'S MINING ASSOCIATION

The Tanzania Women Miners Association is a non-governmental and non-profit organisation that was established in 1997 to help women miners, so that they can 'carry out mining activities that are both economically viable and environmentally sustainable and thereby raise the standard of living of women miners and their families'.

They do this by providing financial support, equipment and advice and have established a number of centres to facilitate this including a centre for rental of mining equipment and tools, a centre of lapidary and jewellery production and a skills training centre. The skills training centre includes training on mining related issues such as mining methods and mineral processing and also on health and environmental issues such as HIV/AIDS and conservation of the environment in mining areas. Working gemstones at the lapidary centre adds value to the gemstones, value that remains with TAWOMA rather than being transferred elsewhere.

TAWOMA was the idea of Martha Bitwale. She formed a group of seven women who worked together to support one another in trading coloured gemstones such as garnet, amethyst, sapphire, green tourmaline, citrine in the Tanga Region of Tanzania. As the group grew, women from other areas joined. Not all were involved with the same coloured gemstones and so women mining or trading gold, diamond, ruby and tanzanite joined the group. By 1997 there were 280 members and TAWOMA was formed. There are now more than 350 members and membership is still growing.

References:

3:http://siteresources.worldbank.org/FSLP/Resources/TANZANIA_WOMEN.pdf

