Knowledge Transfer in Rural Madagascar

A Gemstones and Sustainable Development Knowledge Hub project at the University of Delaware’s Minerals, Materials and Society Program

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Ladies in Hats
Opportunities for Women in the Sapphire Value Chain
Area of Study

- Work is based in Sakahara, Madagascar, one hour from Ilakaka on the RN7 road to the southwest.

*Ilakaka, Madagascar  Photo credit: L. Cartier*
Research to date

- 173 stakeholder interviews and 20 + hours of observations with 5 extended visits to the region.

The heart of my research has been:
- 23 life histories of women sapphire miners (Lawson 2017)
- 12 interviews and 6 life histories of women sapphire traders who are the focus of this talk

Methodology:
The Life Course (Giele & Elder, 1988)
Research Results

Barriers to Market Participation

- Deep seated cultural gender norms constrain women’s access and capacity
- Business Practice marginalises women
- No financial institutions
- Lack of reliable knowledge and equipment
Education and Training

Gem and Jewellery Training
A Day in the Classroom

https://www.youtube.com/watch?v=QvAE0hgSLIs&feature=youtu.be
2014
LYNDA LAWSON BEGINS RESEARCH IN SW MADAGASCAR

2015
CHARLES LAWSON BEGINS PILOT TESTING OF COURSE WORK & KITS

2016
FIRST CLASSES OF 20+ STUDENTS COMMENCE

PROJECT CONCLUSION

2019

2018
IMPROVED & UPDATED COURSE IMPLEMENTED

2017
MONITORING & EVALUATION OF COMMUNITY PROGRESS
Pre-Existing Knowledge

• Bigger is better
• Stronger colour is better
• Sapphires are found in gravel
• Blue is BEST!
• “Sapphires are used in French Rockets”
Prominent Knowledge Gaps

- Basic gem identification
- Use of gemmological tools
- Sometimes clarity trumps colour
- Darker colour is only better to a point
- Gem shape
- Position of inclusions
- Simple exploration techniques
Topics Covered

• Gem Deposits
• Equipment
• Gem Identification
• Synthetics, Treatments & Imitations
• Rough Grading
• Cut Stone Grading (only taught when needed)
• Visual Optics (only taught when needed)
• Over 80 individual samples of rough and cut stones used as hands-on practical examples
Complementary Equipment Provided

- 10x Loupe
- Locking Tweezers
- Gem Scoop
- Waterproof Pen Torch
- London Dichroscope
- White Plastic Bowl (for immersion + sorting)
- Re-sealable plastic bags
- Notebook
- Pens
- Gem Grabber
- *Durable* Course Book (translated into Malagasy)
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1.1 Ny fiovaniny vato
1.2 Ny fandohaniny vato
1.3 Ny toerana misy ny vato izay niova toerana
1.4 Ohatra momba ny Islam-bato

Toko 2: Fitaovana
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2.2 Lopy
2.3 Dichroscope
2.4 Specific Gravity Scales

Toko 3: Famantranana ny vato
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4.21 Fanaveshana ny vato & Fanokoana
4.22 Vakim-pitaratra sosehana corindon
4.23 Fikarakarana hafa
4.3 Fakana talaha
4.31Vakim-pitaratra

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5.12 Fijerena ny loko
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3.2 Gemstone Characteristics

3.21 Beryl- Emerald, Aquamarine, Morganite, Heliodoor, Goshenite

Approx Refractive Index: 1.57-1.59
Approx Birefringence: 0.005-0.010
SG: 2.71
Hardness: 7.5-8.0
Dichroic: Yes
Notes: Should show good dichroism on stones with obvious colour. Emerald is rarely clean and is more brittle than other beryl.

3.2 Toetoetry ny vatosoa

3.21 Beryl- Emeraude, Aiguemarine, Morganite, Heliodoor, Goshenite

Approx Indice de Refraction: 1.57-1.59
Approx Birefringence: 0.005-0.010
SG: 2.71
Hamafisana: 7.5-8.0
Dichroic: Eny
Nota: Tokony manana dichroism sy loko marevaka tsara. Ny Emeraude dia vato tsy dia tena madio nefa mora vaky kokoa noho ny Berila.
Results of Training

• Confidence to ask for a more fair price
• Knowledge of what types of gems they have
• Knowledge of important value affecting factors
• A desire to learn more
• A sense of pride in their work
• A desire to pass their improved knowledge on to their children
THANK YOU!

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