

Artisanal and Small-scale Mining: Learning lessons from the Boom for the time after the Bust

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The Minerals Boom

- 10 years to 2008: minerals boom due to demand from BRIC countries, notably growth in China
- Gradual increase in prices and demand escalated driving prices to record levels
- ASM, as part of the global economy, is subject to the same pressures as LSM and responds to the same opportunities
- LSM accounts for 85% of mineral production, ASM accounts for 15% (higher for some minerals)
- It was boom-time for ASM too

How the Boom increased ASM

- High mineral prices made ASM more profitable
- High mineral prices made even lower grade deposits more valuable
- High ASM profits made alternatives less attractive; contributed to increased migration to mining areas
- High prices stimulated and paid for resource conflicts
- Increased tolerance for risk by investors made previously unattractive countries more interesting
- Developing countries focused on improving the LSM environment at the expense of ASM
- Increased LSM-ASM conflicts over resources

Boom-time business approaches to ASM

- Responsible trading relationships
- Fair trade schemes
- Supply chain management schemes
- ASM buying schemes to allow companies to get into production ahead of final industrial development
- Increased emphasis on responsible approaches to displacement and resettlements
- High levels of social development investment by LSM

The Bust

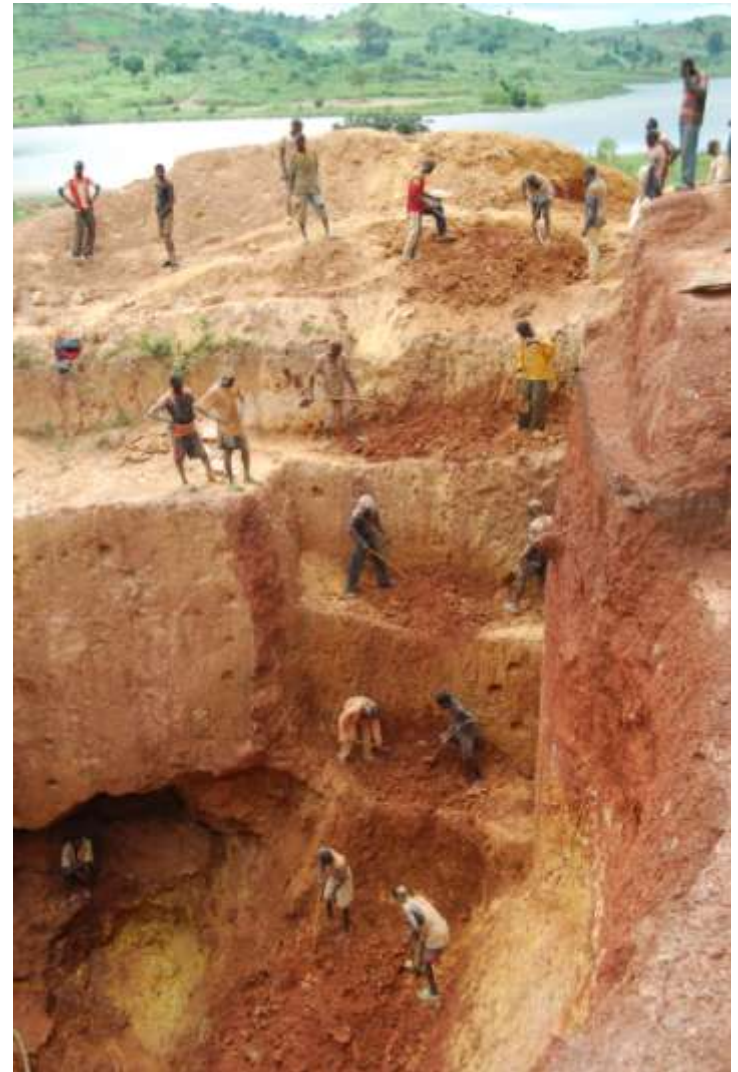
- Fallout from the subprime mortgage crisis
- US stock holdings fell \$8 trillion in 9 months
- Market capitalization of top 40 mining companies decreased by 62% (some by 90%)
- Shutdowns, delays, cutbacks, job losses in the mining sector
- Mines into 'care and maintenance' or closed
- Certain minerals impacted more than others – gold remained strong

How the bust impacted ASM

- Variety of impacts according to minerals
- Some transfer from other minerals to gold
- Markets collapsed, buyers disappeared, opportunistic 'cashing-in' on cheap minerals
- Migration away from ASM areas
- Loss of employment for new recruits from ASM
- Cut back in LSM social development spending
- Negative impacts on national economies of the countries where ASM workers live

The ASM Credit Crunch

- Massive over-extension of credit was a major contributor to the economic crisis
- ASM is no exception – indebtedness is a key issue at all times
- ASM mine development is capital expensive with a potentially long-lead time to profit (and no guarantees)



CASM Case Study: Kolwezi

- Kolwezi, Katanga, DRC
- 30,000 ASM workers, primarily on abandoned industrial sites
- Copper, cobalt, radioactive minerals
- Buyers include Congolese (independent & State), Lebanese, Australian, Chinese, others
- Price in early 2008 \$40 for 100kg sack 20% Cu



How the crisis hit Kolwezi

- Price collapsed in second half of 2008
- Could not sell Cu for \$1 per sack
- Could sell some high grade cobalt
- Only 2 buyers remained (1 Chinese and 1 other buyer with a \$1m budget to buy up cheap Cu)
- Town's economy ground to a standstill
- Social development funding dried up



Forced to dig in ever harder sites



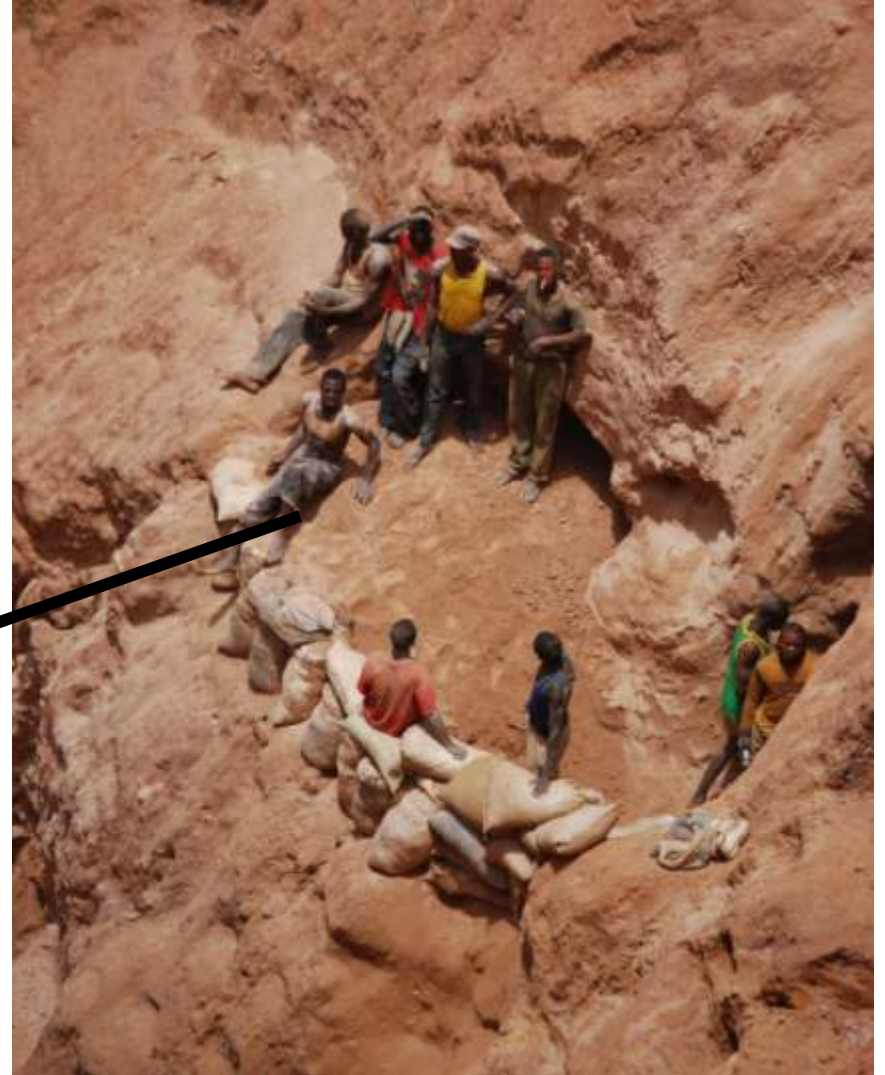
Forced to dig in ever harder sites



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Forced to dig in ever harder sites



A rapid return to ASM

- 30,000 miners are back
- More sites than ever before (including sites that were laboriously evacuated during the boom)
- 30 buyers are back
- Paying \$20 per 100kg sack 25% Cu, \$125 per 100kg of 2% cobalt
- In the absence of LSM, there is a significant public security presence



Kolwezi as an opportunity for insight

- Perfect case study on ASM response to crisis and choice of alternatives
- Funding from CASM
- 250 diggers interviewed (70% men)
- 60% in the mines 3-5 years
- 57% skilled professionals, 75% with at least secondary education



Economics and drivers

- Before the crisis, the majority were earning \$10 per day
- During the crisis, typical earnings fell to \$2.50
- Now earning \$6-7 per day
- Came back to the mines for better money
- High grade sites are empty and accessible
- Mines are near home



CASM Case Study: Kolwezi

- If mining had not started again, would they have stayed in their temporary alternatives? YES:
 - 60% in agriculture
 - 30% in trade
 - 10% various other jobs
- 16% know people who did not restart mining
- 68% would choose agriculture instead of mining if it could pay



Observations: ASM in the recovering economy

- Reduction in inventories coupled with global stimulus packages may once again boost demand
- Positive indications and improved prices being seen
- Need to focus now on improving enabling environment for ASM to make it more shock-proof
- For ASM, the risk is not just commodity crashes but price volatility
- Need to develop mechanisms to better manage mineral revenues to create buffers against price crashes

Observations: ASM/LSM moving forward

- Governments emphasized LSM policy and promotion at the expense of ASM during boom
- ASM could have been a stronger contributor to economic recovery
- ASM is more nimble than LSM so resumption of artisanal activity is more rapid than the capital-hungry and risk-averse industrial miners
- This resumption of activities will once again cause ASM-LSM conflicts – important to refer to the boom-time lessons and successes
- LSM cut-backs in social development were necessary but very damaging. Beware of artificial and unsustainable social development environment

Observations: Gold – the ASM refuge

- Continued strength and relative stability of gold make it the 'ASM Mineral of Choice'
- Continued emphasis is needed on responsible gold production, purchasing
- Global sales of ethical jewelry are <1% of total gold jewelry market
- Only 15% of global gold jewelry sales are to UK and USA where ethical buying is popular
- Ethical markets may select against ASM
- Essential to find a way to engage buyers in India, China, Middle East, Turkey, Russia if ASM gold is to feed this market in a responsible way

Closing thoughts

- ASM is a critically important contributor to the economy of many developing countries
- It is subject to the same highs and lows as the industrial sector
- It is often a coping mechanism for other forms of economic hardship but, if minerals markets fail, so does ASM as a livelihood
- We are failing to maximize on its potential in the transformation of natural capital
- We are failing to recognize its contribution to economic recovery

Closing thoughts

- More active and deliberate in learning lessons
- Broader and longer term thinking – downtimes are opportunities for improving the enabling environment
- Engage the ‘big hitters’ (BRIC economies)
- Accentuate the positives - when ASM turns to alternatives, find ways to make these ‘sticky’
- Strengthen the supplementary aspects of alternatives; be realistic that competition with ASM is difficult but planned transition and diversification is possible
- Create mineral endowment buffer mechanisms to enable all actors in mineral-dependent economies to better survive the downtimes

Building our knowledge



- Learning opportunity facilitated by CASM
- Need other examples of how boom and bust impacted on ASM
- How responsible business approaches survived, failed or were adapted in the crisis

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