

# **EDUCATION and TRAINING**

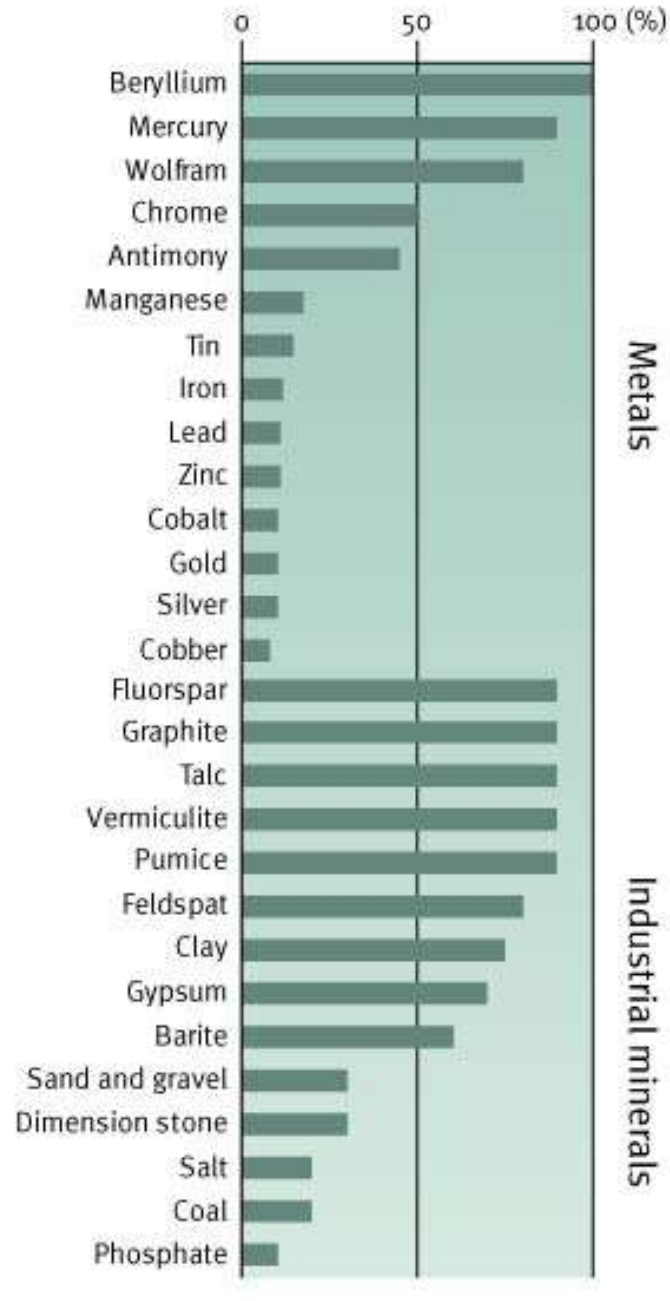
## **Promoting ASM understanding and capacity development**

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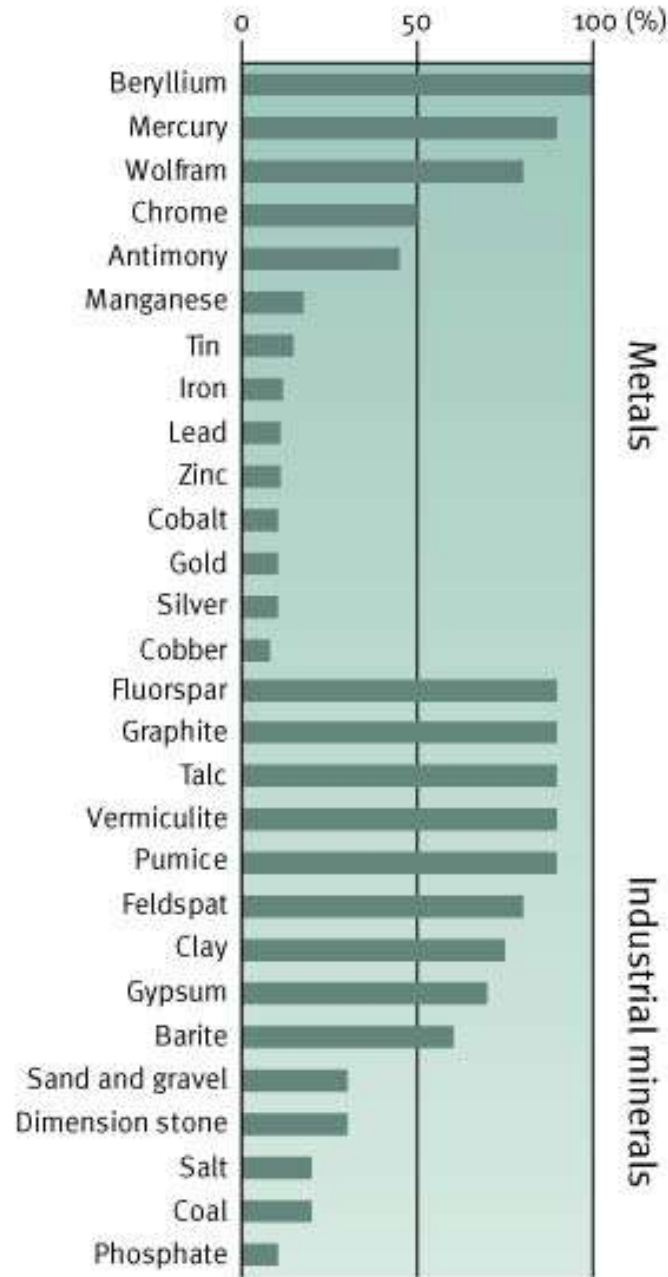
# Percentage of world production of metals and other minerals by small scale mining



Source: Geoviden (2007); Geological Survey of Denmark & Greenland; Issue No 2; p4



Percentage of world production of metals and other minerals by small scale mining



**If ASM is so significant, why do we not teach mining students much about it?**

Source: Geoviden (2007); Geological Survey of Denmark & Greenland; Issue No 2; p4



# 'Most frequently cited' causes of accidents in ASM:

- Rock falls and subsidence
- Lack of ventilation
- Misuse of explosives
- Lack of knowledge and training
- Obsolete and poorly maintained equipment

Source: MMSD (Mining, Minerals and Sustainable Development) Project (2002); Breaking New Ground; Earthscan Publications Ltd; Chapter 13 Artisanal and Small-Scale Mining; pp314-334



## Environmental impacts of ASM:

- Mercury pollution
- Cyanide pollution
- Direct dumping of tailings and effluents into rivers
- Threats from improperly constructed tailings dams
- River damage in alluvial areas
- River siltation
- Erosion damage and deforestation
- Landscape destruction

Source: MMSD (Mining, Minerals and Sustainable Development) Project (2002); Breaking New Ground; Earthscan Publications Ltd; Chapter 13 Artisanal and Small-Scale Mining; pp314-334



# Proposal 1

## Develop course content on ASM for mining students

- To understand the wider picture of mining
- Part of 'environmental' and 'sustainable development' awareness
- To improve future relations between large scale and small scale mining



# Capacity Building in ASM regions

- Do we know where strengths and weaknesses exist?
- Can we help CASM in promoting educational capacity where it is needed?



# Proposal 2

**Identify relevant educational establishments to map against areas of need.**

**Develop a network for mutual support**





# Research Potential in University Mining Schools / Other Research Establishments (e.g. Geological Surveys)

- What relevant specialist capabilities exist?
- What are the critical areas for ASM-related research?
- Could we build strong consortia for funding applications?



# Proposal 3

**Include research institutions in the network**  
**Identify areas of need / Develop joint funding applications**



# Summary

- **ASM input to curricula in mainstream Mining Schools?**  
(Sustainability; LSM:ASM relationship; Develop a 'lecture'?)
- **Mining Schools in strategic places to help development in ASM?** (Cheap local technologies; Safety & environment advice; Can we identify and support them?)
- **Build a network of Mining Schools across continents?**  
(Support each other in supporting ASM; Research opportunities?)

*Other ideas?*

