



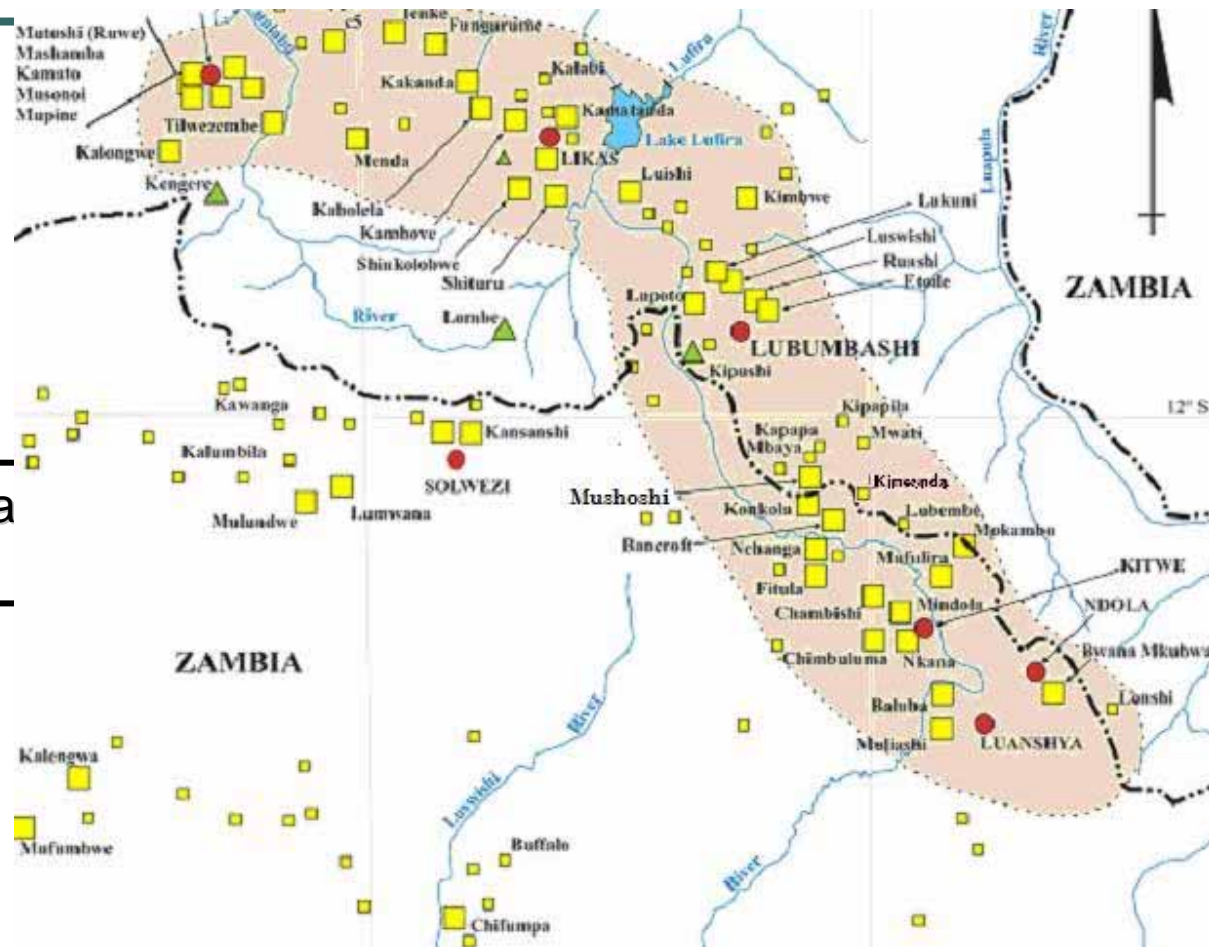
**THE MINERAL RESOURCES OF  
KATANGA  
A DEVELOPMENT POLICY**

# Mining Policy Objectives and Strategy

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- To exploit all the mineral resources of Katanga, large and small, to the benefit of the people of the Congo
- To achieve this by:
  - giving easy access to full mineral rights in the Congo by the discoverer of a resource
  - Creating a vigorous market-place in mineral rights in the Congo so that
    - discoverers can readily profit from their finds
    - venture capitalists can readily acquire mineral resources

# Zambia and Katanga - a Common Structure – the Lufilian Arc. Or is it...?



The border – a flat watershed

# IF A COMMON STRUCTURE, WHY SUCH A DIFFERENT ECONOMIC GEOLOGY?

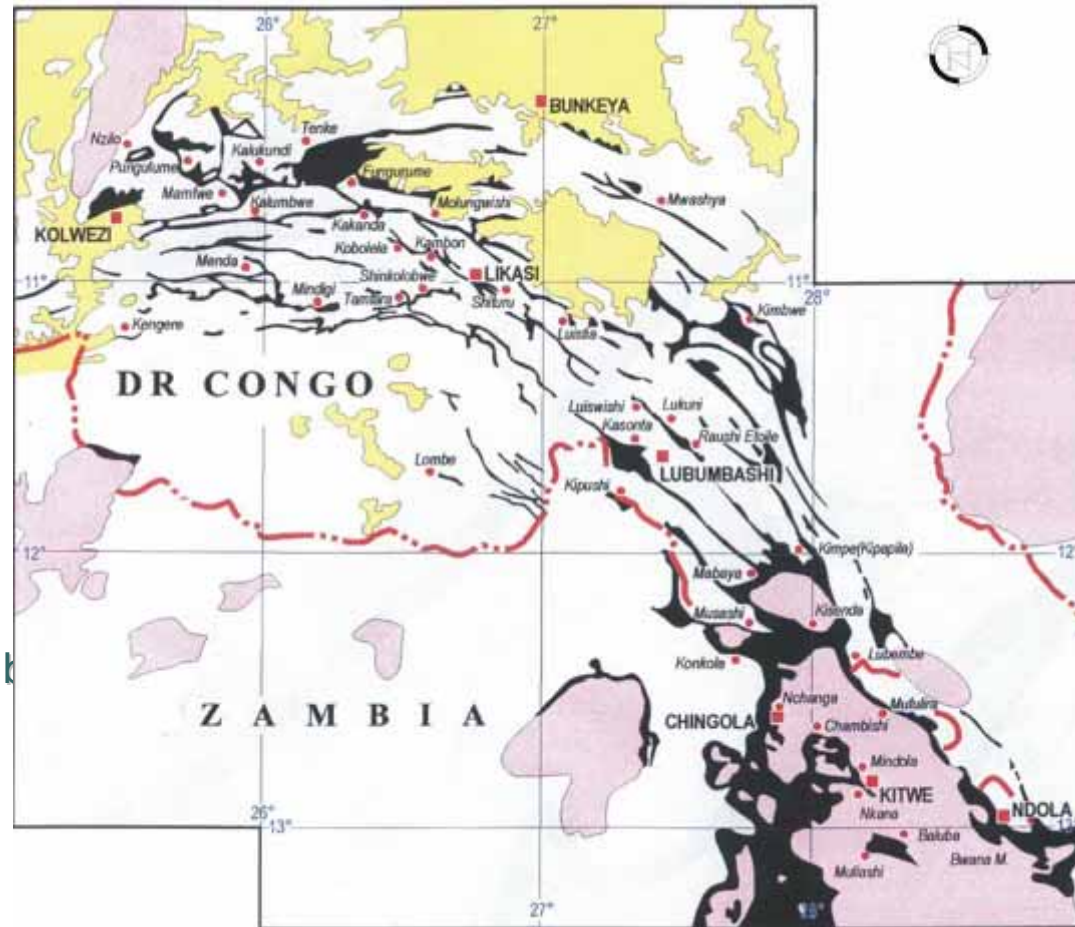
	Rough Number of Deposits	Principal Ore Type	Order-of Average Resource Size, tonnes	Average Copper Grade %	Average Cobalt Grade %	Annual Average Copper Production, Thousands of Tonnes, 1946 – 2004
<b>KATANGAN COPPERBELT</b>	Perhaps 300	Oxide*	500,000	3.5	0.4	260
<b>ZAMBIAN COPPERBELT</b>	About 20	Sulphide	50,000,000	2.2	>0.1	470

\*The unquantified sulphide resources of Katanga are its future

## AND WHY THE DIFFERENCE IN PRODUCTION?



Two answers to the different geology.  
 First, coincidental structural change at the  
 border

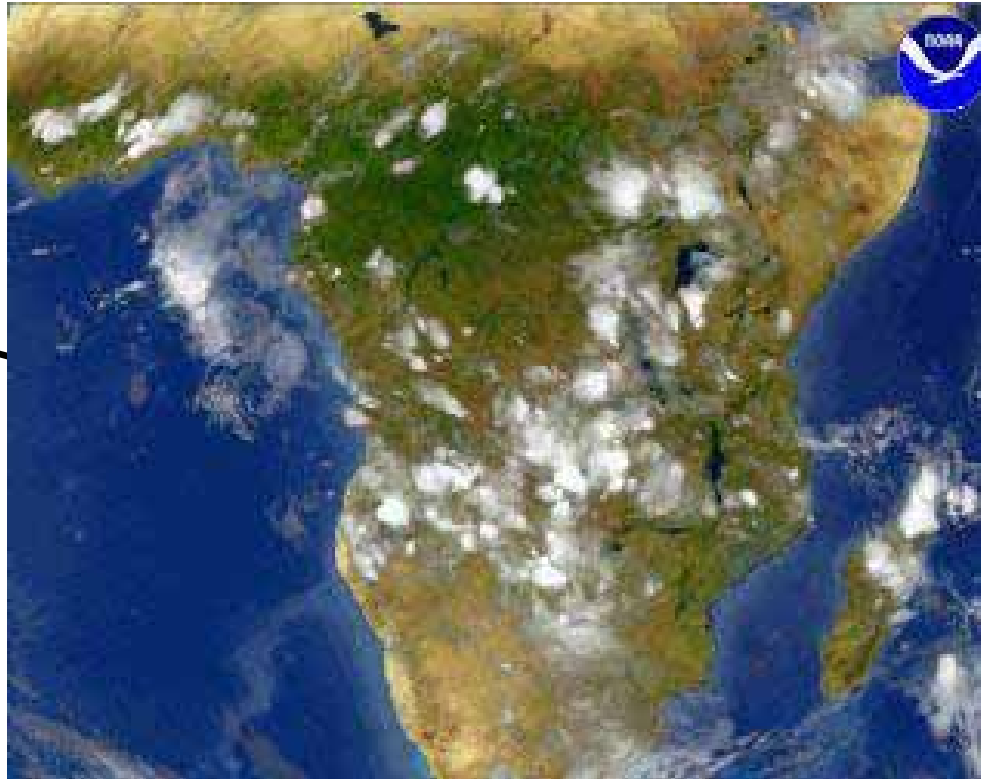


of smaller  
 ably of

In Zambia massive  
 hydrothermal origin

# And the second answer – the weather...?

The  
Intertropical  
Convergence  
Zone, 3<sup>rd</sup>  
March 2002,  
along the  
Zambia-  
Congo border

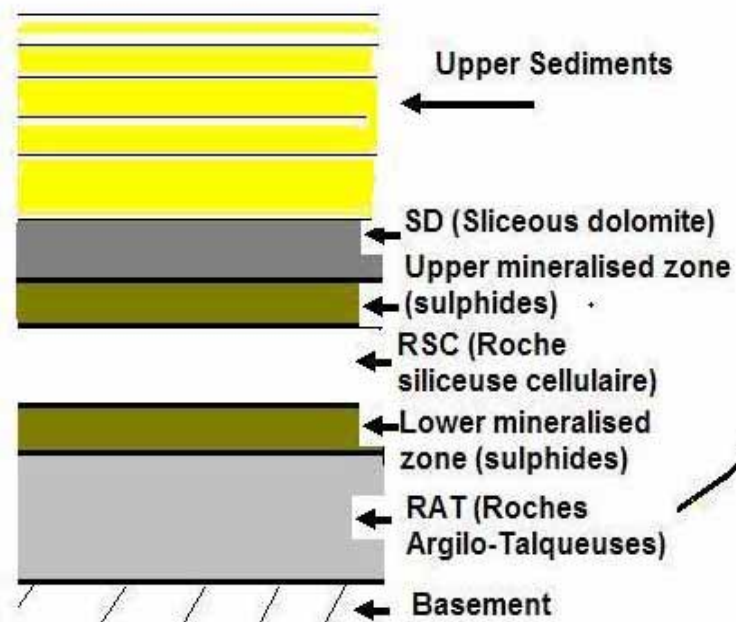


To the north of  
the watershed –  
heavy rain, deep  
weathering (100 –  
200m), much  
supergene  
enrichment

To the south of  
the watershed –  
less rain, shallow  
weathering (20 –  
50m), little  
supergene  
enrichment

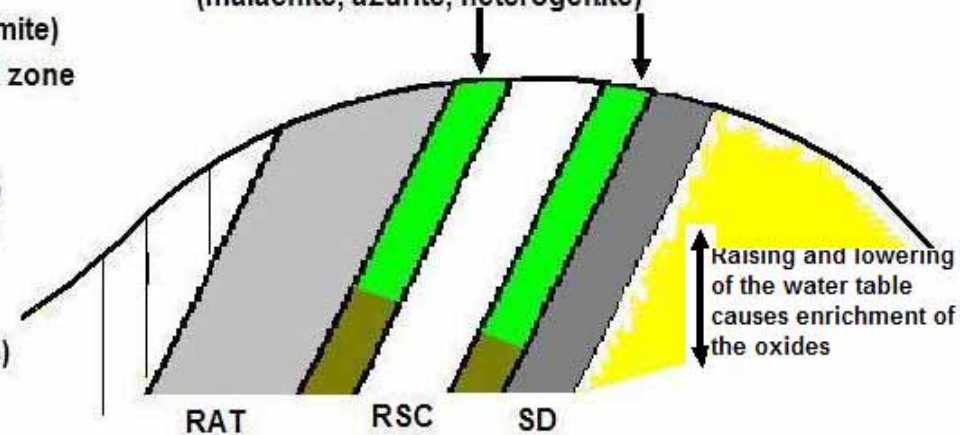
## KATANGA - AN OVERSIMPLIFIED ECONOMIC GEOLOGY

### THE KATANGA SEDIMENTARY SERIES



### THE PRACTICAL CONSEQUENCES

1. Earth movements fracture and tilt the sediments
2. The carbonates in the RSC dissolve from rainfall to leave behind a hard siliceous core which forms the centre of a hill
3. The sulphides are oxidised by water and air to form metal carbonates, oxides and hydroxides (malachite, azurite, heterogenite)



Typical Appearance of Mineralised Features -  
hills at Tenke-Fungurume

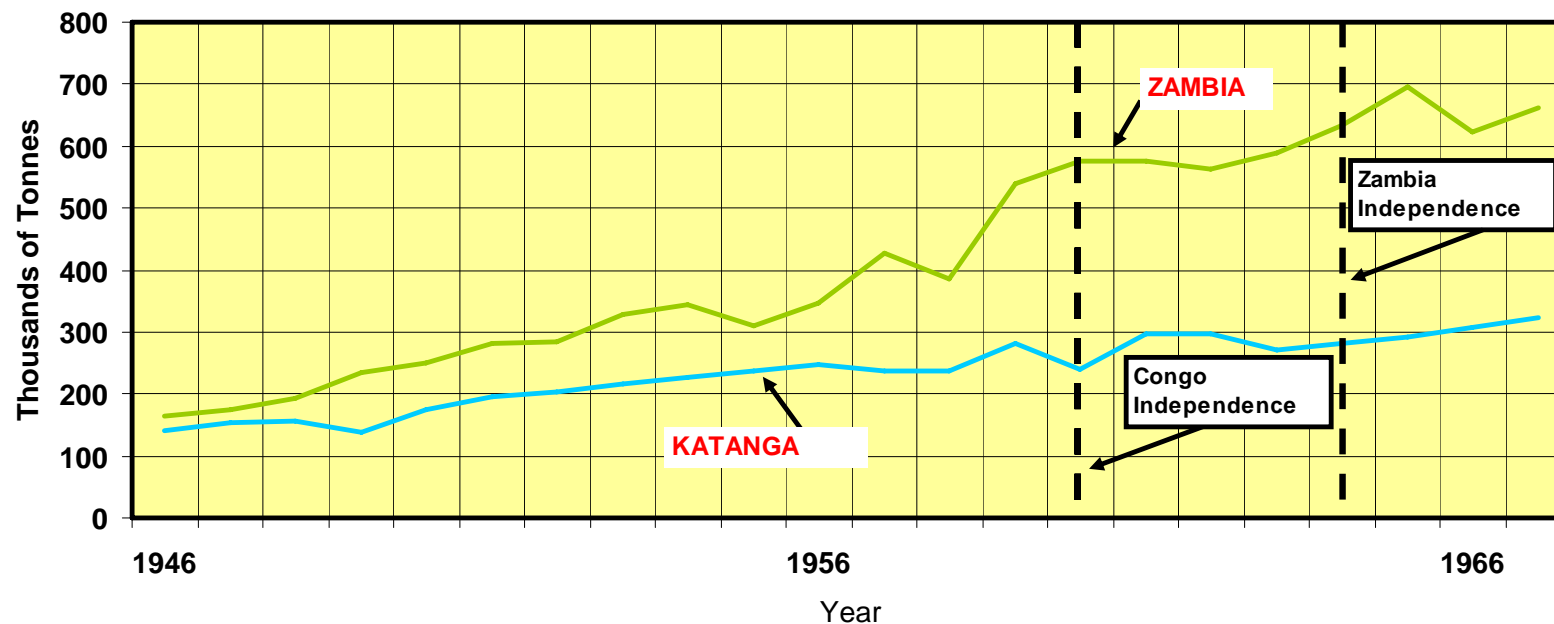
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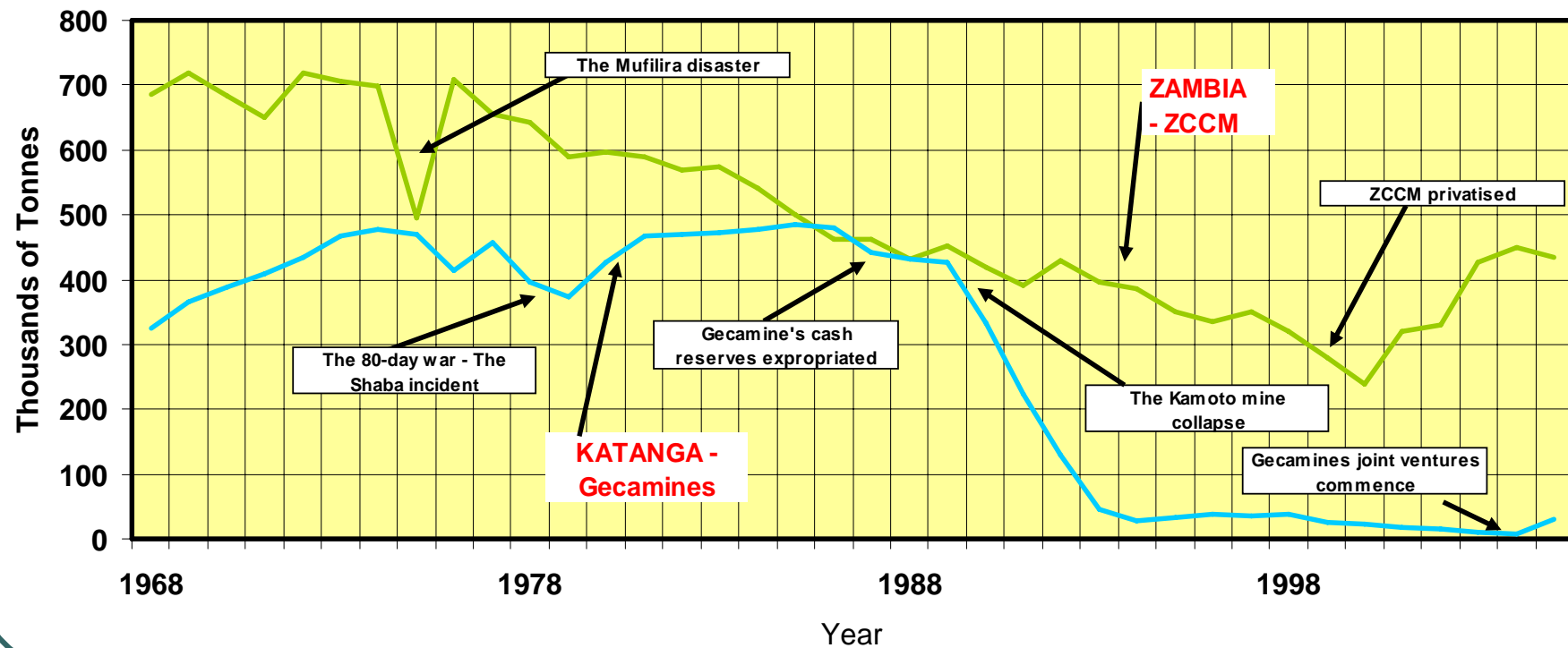
# But now the second question – why the difference in production?

**POST-WAR COPPER PRODUCTION, 1946 - 1967**  
(UMHK IN KATANGA, ANGLO AMERICAN AND ROAN SELECTION TRUST IN ZAMBIA)



# A difference that continued after nationalisation in both countries

**COPPER PRODUCTION 1968 - 2004**  
(GECAMINES IN KATANGA, ZCCM IN ZAMBIA)



The answer – in the monopoly situation in Katanga there was no competitive pressure

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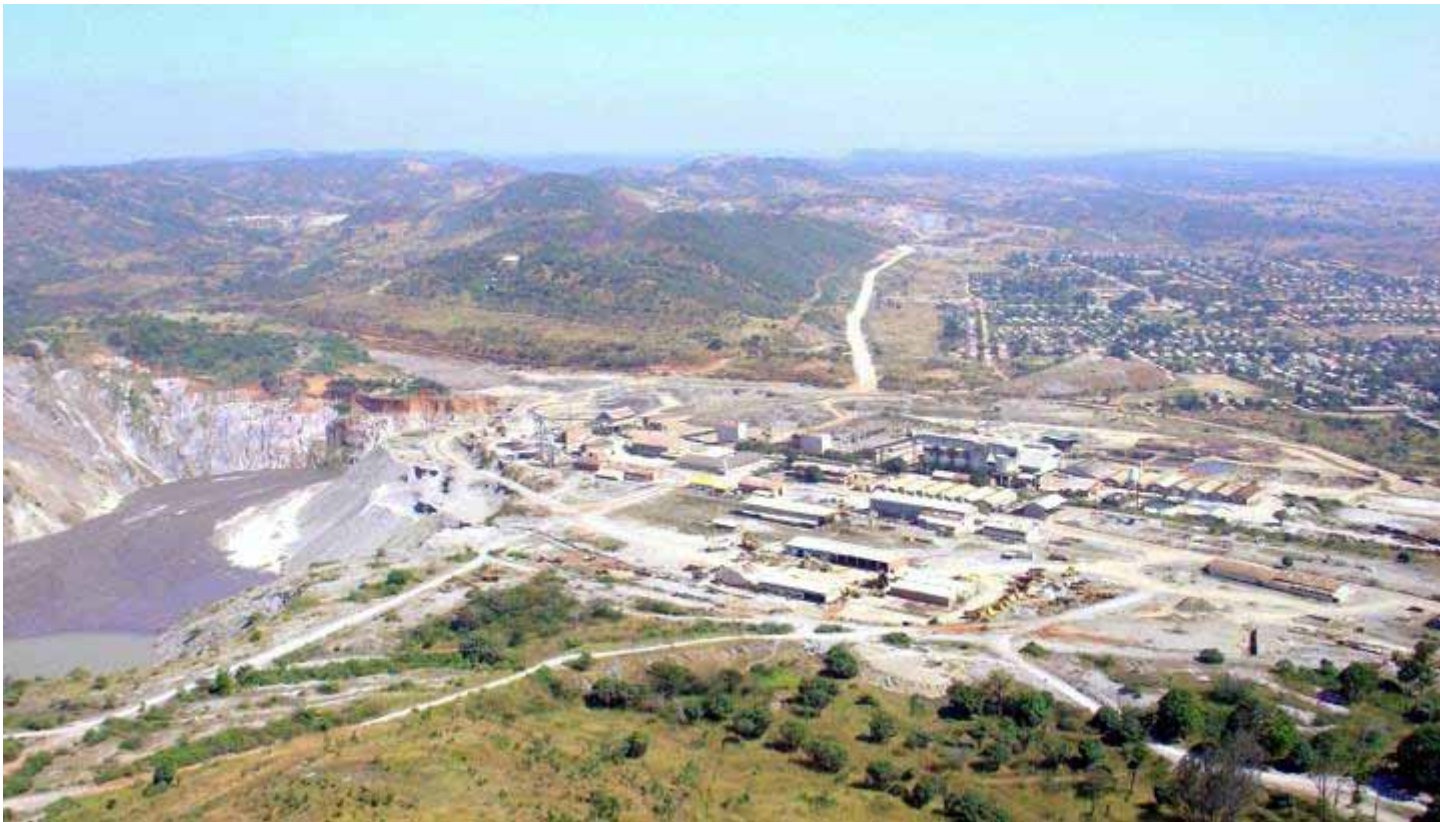
UMHK was:

‘in a class of its own because it was the only institution which operated in the Congo without having to worry whether political development could affect its decision...the management saw themselves as a State within a State’.

Jacques Depelchin, *From the Congo Free State to Zaire 1885-1974*, University of Lubumbashi

The result was a few very big mines like this -

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...and, in post-Independence Congo,  
many, many mines like this -

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...and almost no medium-sized mines like this -

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## Yet the DRC has the potential for many formal mines of all sizes but -

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- The mining law separates artisanal and large scale mining - an artificial separation: mining sizes are a continuum
- The law locks artisanal miners into poverty\*
- It presupposes that the Congolese cannot run formal mines
- Yet apart from the local entrepreneurs there are perhaps over 5 million Congolese in the diaspora
- They are not all poor: one estimate is that over US\$4 billion a year is being remitted to the DRC
- Wanted – more Kaala Mpinga's!

\* 'Article 110: If the factors which have justified the creation of an artisanal mining area have ceased to exist ...on the advice of the Geology Directorate, the Minister proceeds to close the artisanal mining area.'

# MINING LAW – THE STRATEGIC CHOICE FOR THE DRC

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## **The Concession System**

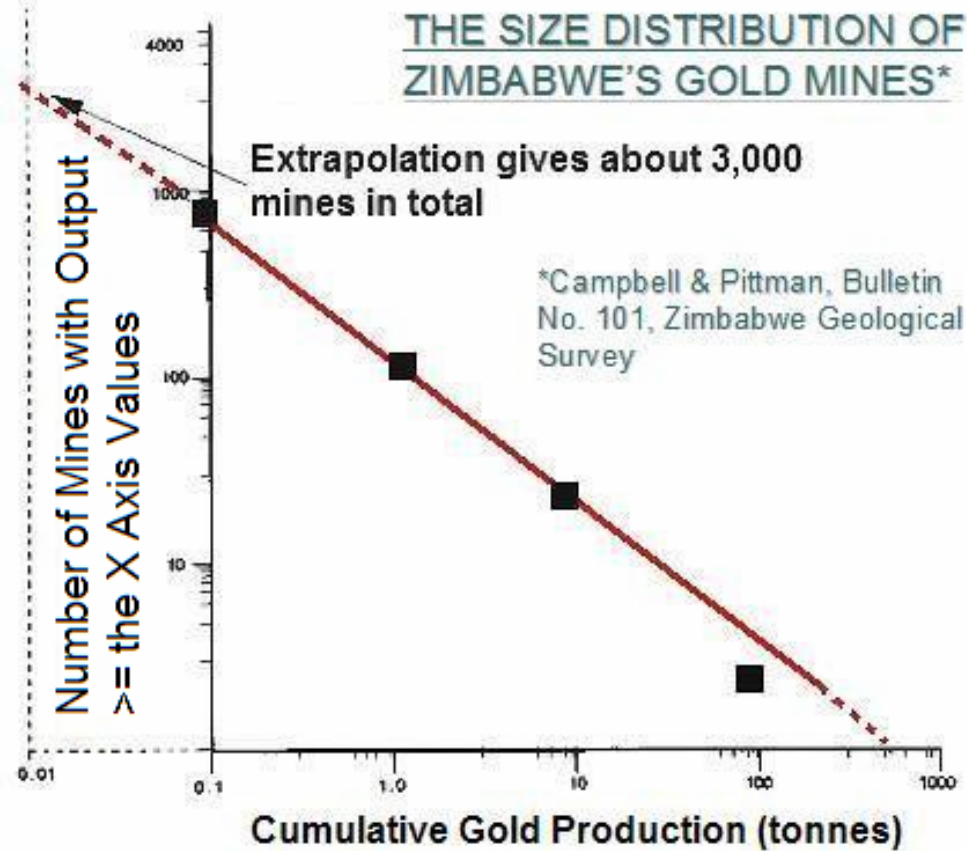
- Separate Exploration and Exploitation licences
- Large areas usually granted (400 sq km in the DRC)
- Ownership valid for fixed time (5 years for Exploration, 30 years for Exploitation in the DRC)
- Separation of small-scale from large-scale mines (in the DRC small-scale = no deeper than 30m)

## **The Claims System**

- A claim is valid for both exploration and exploitation
- A claim is a small area, typically about 1 sq km
- Continuous ownership, conditional only on annual amount spent or revenue received per claim
- No differentiation between the sizes of mines



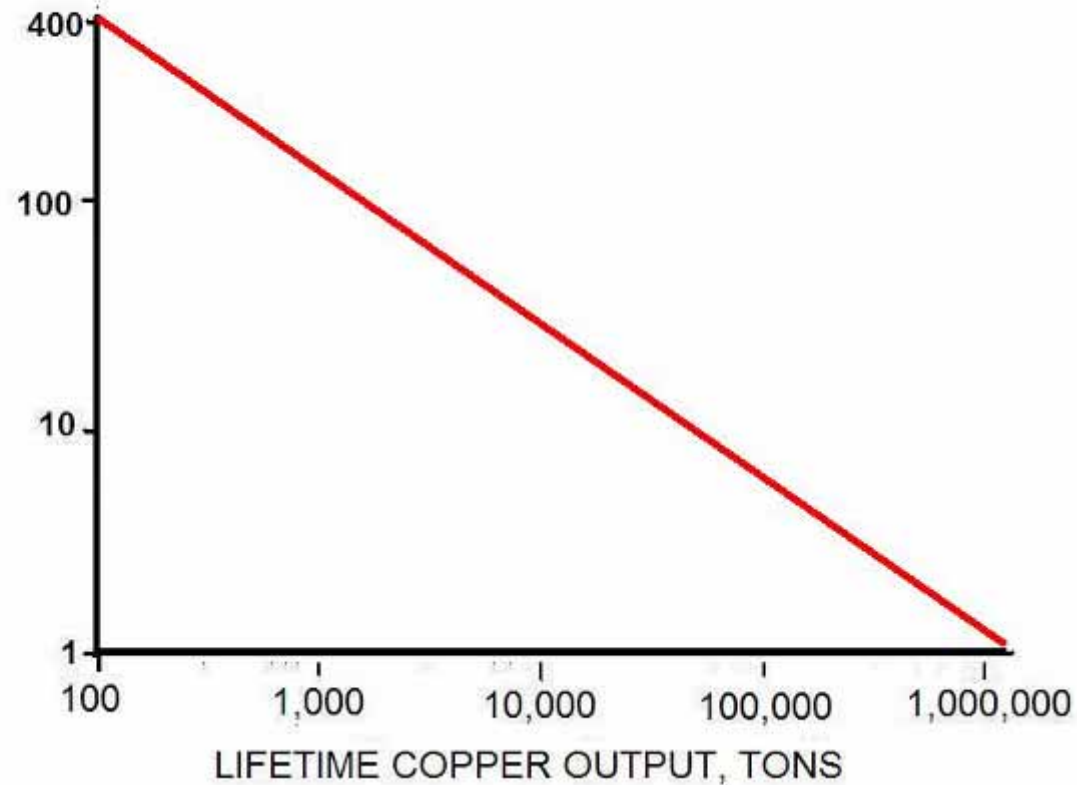
# A strong market place in claims gives full development and a natural distribution



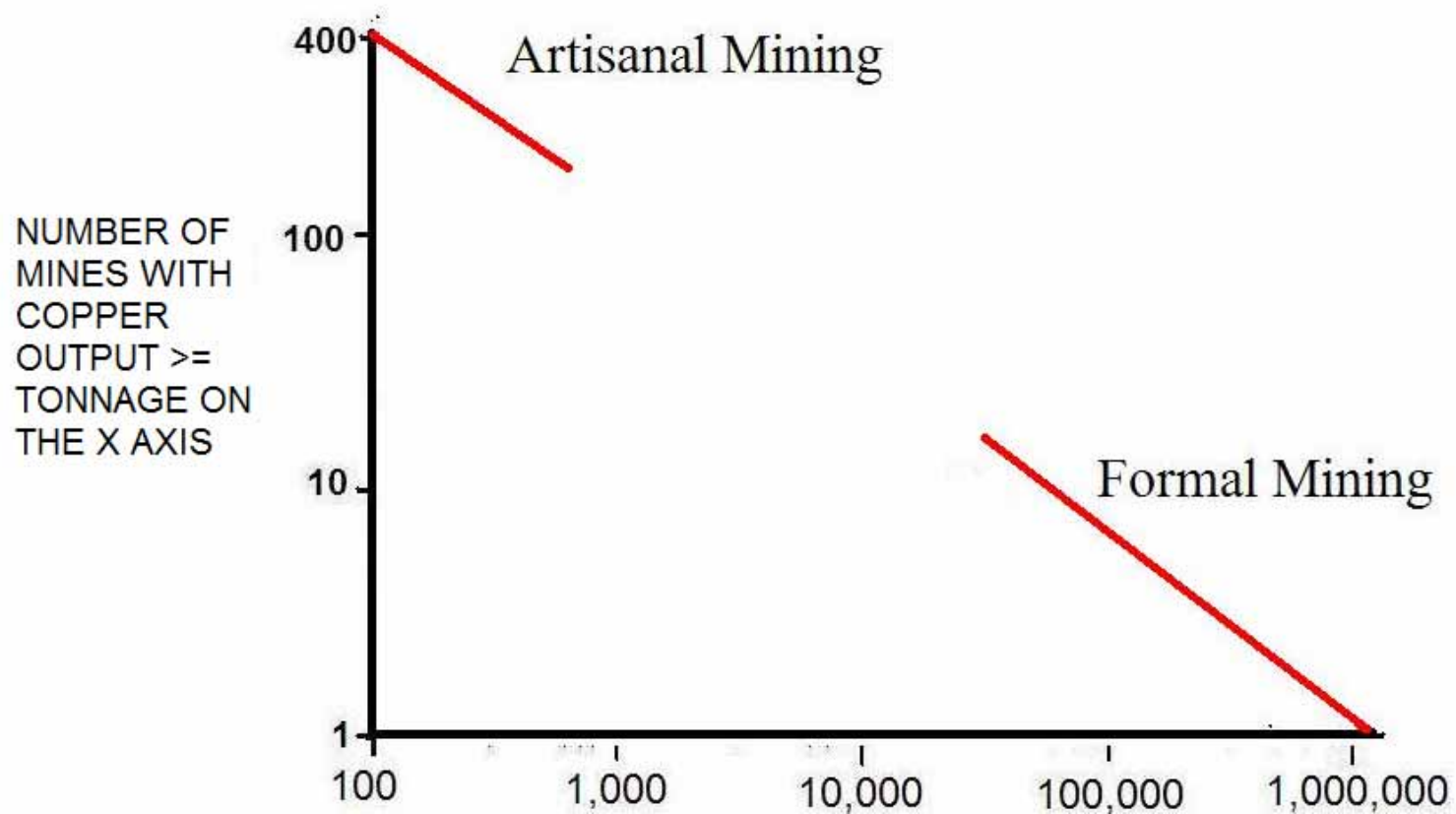
So could this be the pattern for Katanga's copper output in 2025?

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NUMBER OF  
MINES WITH  
COPPER  
OUTPUT  $\geq$   
TONNAGE ON  
THE X AXIS



# Or will it still look like this?





A scenic view of a lush green forest with mountains in the background under a cloudy sky. The text "THANK YOU" is overlaid in the center.

THANK YOU