

Ensuring Water and Food Security

The Water Crisis: A Professional Organisation's Perspective

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Overview

The Act itself is good, but implementation is a *national crisis*

Main headings:

1. Who is Planning?
2. Water Quality
3. Aging Infrastructure
4. Capacity and Skills
5. What Next?

1.

Who is Planning?

Who is planning?

❖ Planning based on Demand Management

❖ Demand Management not happening

❖ Reality check:

- ✦ Can DWAF ensure LAs and Water Boards plan needs?
- ✦ Implement desired savings?

❖ Who puts it all together?

- ✦ Water Resources - NWRS
- ✦ Water services - Water Services Development Plans
- ✦ Are they being prepared?
- ✦ Are they based on reality?
- ✦ Are they addressing the critical issues?

M1 CHRIS

YOUR CONCERN ABOUT THE PLANNING FOR WATER NEEDS AT LOCAL LEVEL SHOULD BE ADDRESSED BY MUNICIPALITIES IN THEIR WATER SERVICES DEVELOPMENT PLANS (PART OF THE IDP)

THERE IS LITTLE EVIDENCE THAT THIS IS HAPPENING, ALTHOUGH THERE ARE IMPORTANT EXCEPTIONS

THE WSDPs SHOULD INFORM THE CATCHMENT STRATEGIES AND THE NWRS THIS IS THE SYSTEM THAT MUST BE MADE TO WORK - ITS NOT COMPLICATED AND IT SETS OUT CLEAR ROLES AT LOCAL, CATCHMENT AND NATIONAL LEVEL

MIKE MULLER, 2008/10/17

Who is planning?

e.g. We view with concern DG's statement regarding Gauteng:

"Unless we do something about the current growth trends and needs, we are going to have a water shortage by 2013"

"But even with the fastest implementation, these [projects] will only be ready by 2019"

Engineering News 26 September 2008

Who is planning?

And:

"... irrigation water use in the Vaal River System has increased by more than 100% between 1998 and 2005 for the area upstream of Vaal Dam alone."

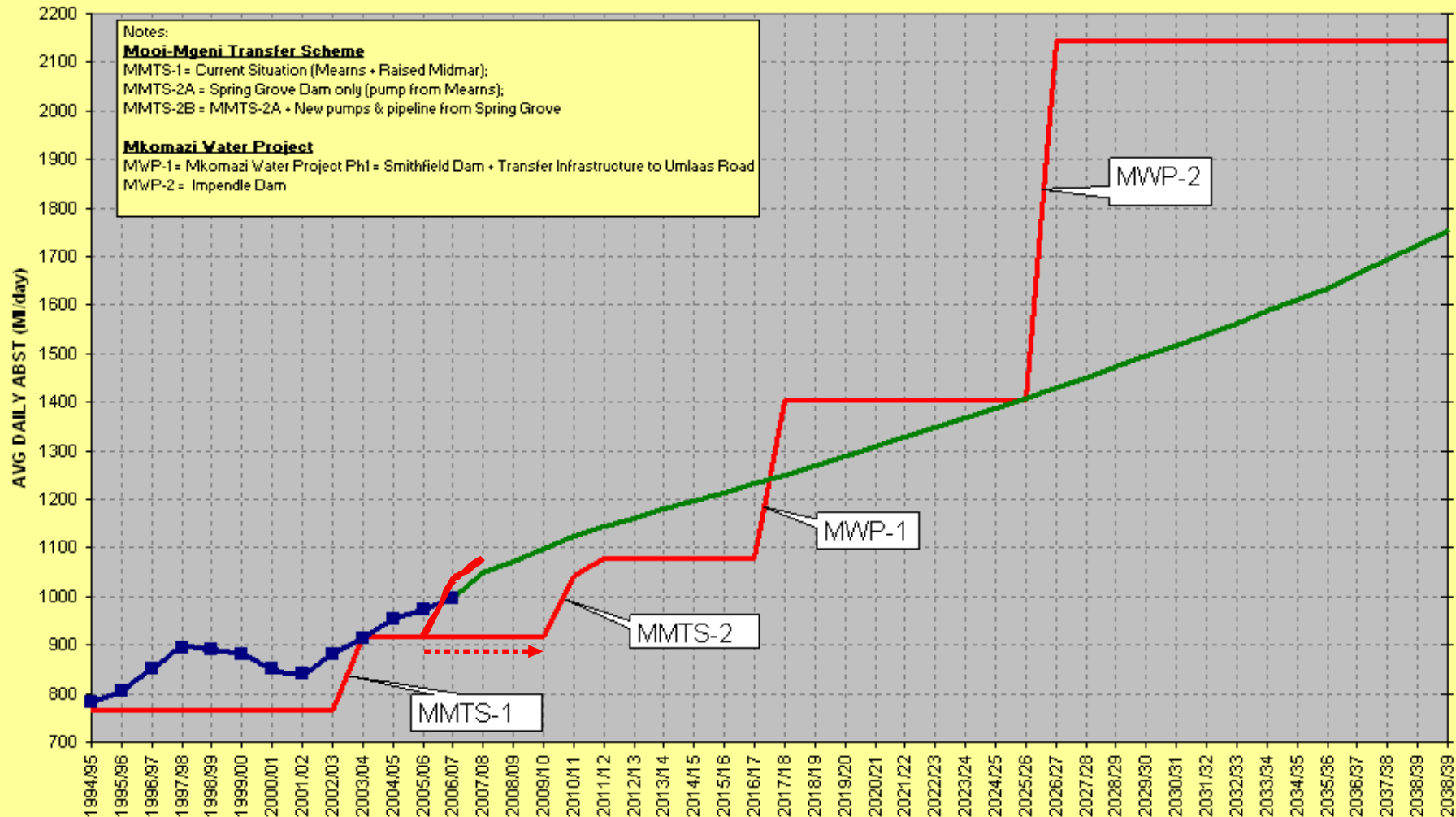
*"Up to **[185] million m³/a** of irrigation water use in the Upper Vaal WMA is estimated to be **unlawful**."*

*"This has been a shocking discovery, and probably the main reason why the Vaal River System is **currently in deficit**."*

The Water Wheel May/June 2008

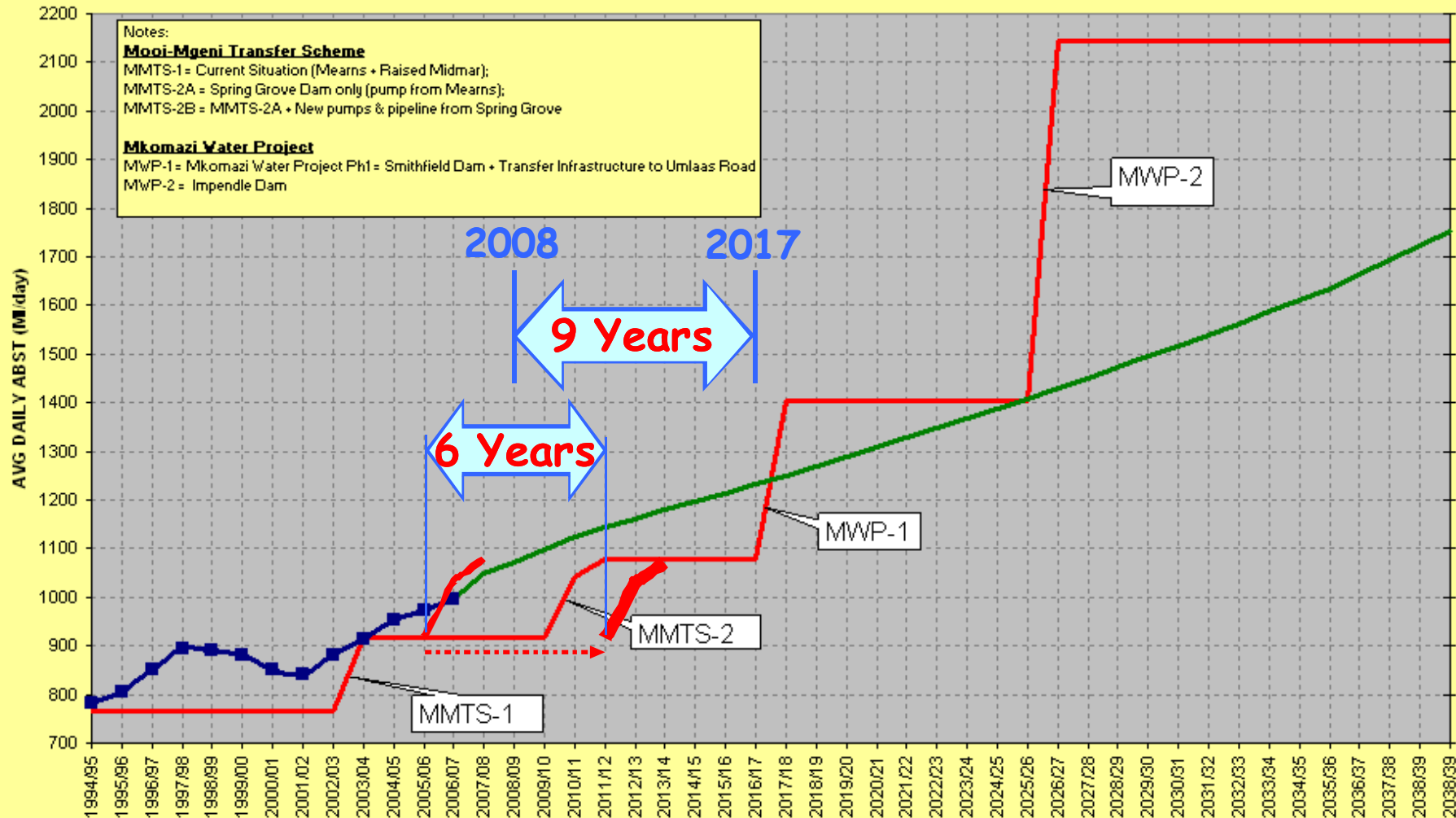
Who is planning?

MGENI SYSTEM: WATER RESOURCE REQUIREMENTS
99% LEVEL OF ASSURANCE



Who is planning?

MGENI SYSTEM: WATER RESOURCE REQUIREMENTS
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Who is planning?

- It is a legal requirement for the Minister to produce a National Water Resource Strategy every five years
- The NWRS must set out the key water challenges and proposed responses
- The NWRS (2009/2014) is due out next year
- There must be wide consultation before it is finalised
- Where is it?

Who is planning?



Largest conurbation:

+ 6-11 years late!



2nd largest:

+ 6-11 years late!



DWAF advocates DM:

+ Dept. Agriculture hands out hosepipes



National Water Resource Strategy

+ Late!

→ *National crisis!*

2.

Water Quality

Water quality

- Challenge is not just quantity
- Water that is too polluted to use is as serious as no water!
- This is beginning to happen in some areas:
 - ✦ Vaal
 - ✦ Mgeni and Durban beaches
 - ✦ Crocodile, Mpumalanga
 - ✦ Roodeplaats - international event cancelled
 - ✦ Fish / Sundays

Water Quality

🔴 Enforcement is major challenge

- **Salinity and mine waste:** Huge economic cost
- **Eutrophication:** Economic cost / aesthetics
- **Biological:** Major health threat
- **Environmental:** Condition of resource

🔴 Waste water charge

- **Why not implemented?**

Water quality

Recent e-mail:

"I was at the Howick WWTW "outfall" into the Mngeni River today - looked like the effluent in an anaerobic digester - dark brown, thick and smelly. It flows through an informal settlement, which is about two paces away from the houses on either side of the torrent, which then disappears over the Krantz to meet the river after the scenic Howick Falls. I saw a child take a container and rinse it out in the "water". Absolutely horrific!"

Judy Bell, 13 October 2008

→ *National crisis!*



3.
Ageing
infrastructure

Ageing infrastructure

- Local Authorities
- Dams, canals, etc.
- Information systems
- Funding deficit
- NWRRIA - to be running by 2008?

Ageing infrastructure

→ *National crisis!*

4.

Capacity and Skills

Capacity and Skills

- NWA not being implemented
 - ✦ Insufficient capacity
- Loss of key skills
- Education crisis

Capacity and Skills



Local Authorities

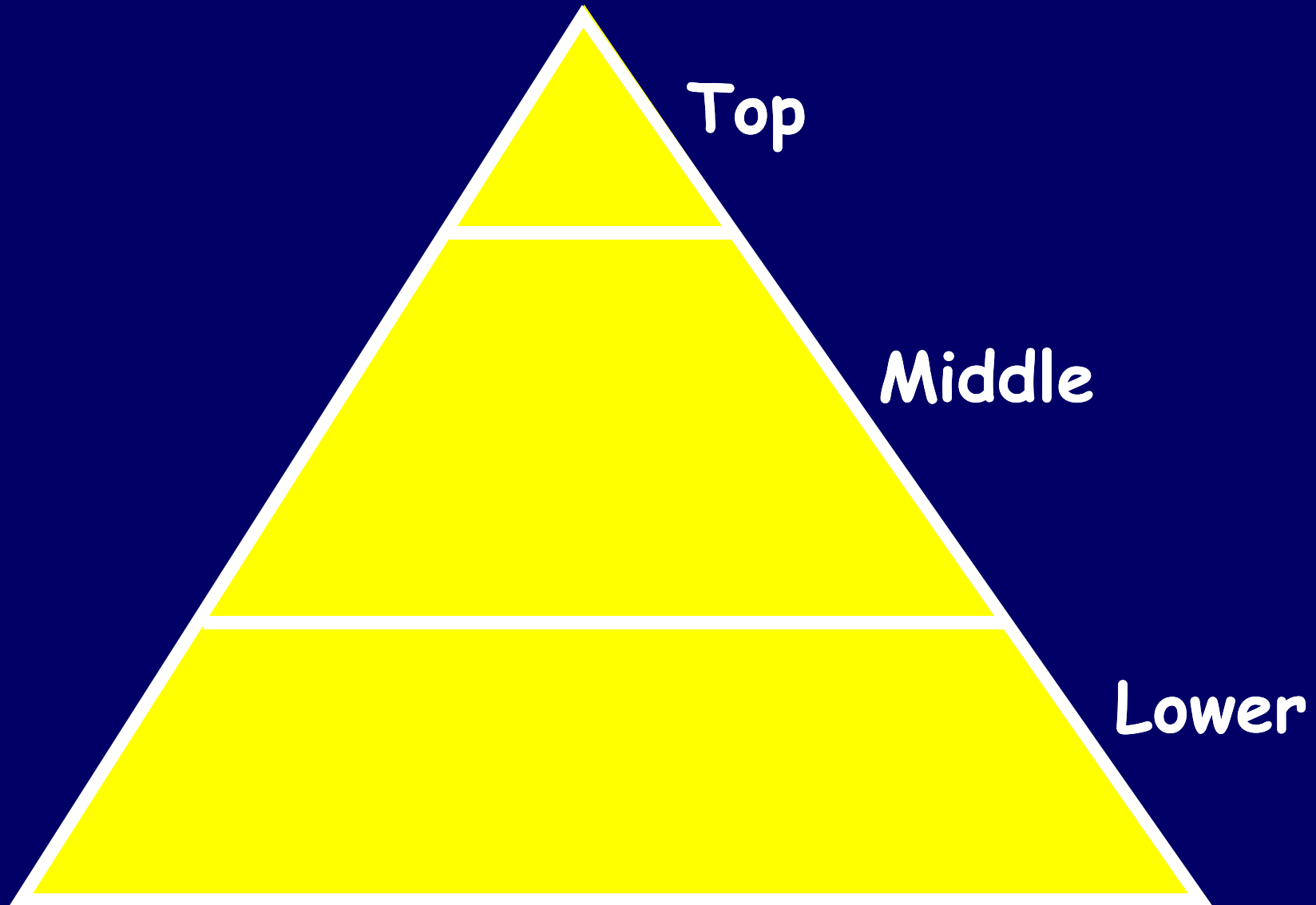
- 7-fold loss of engineers/technologists
 - ✦ Infrastructure maintenance collapsing
 - ✦ Demand management failure
 - ✦ Water treatment failure

→ *National crisis!*

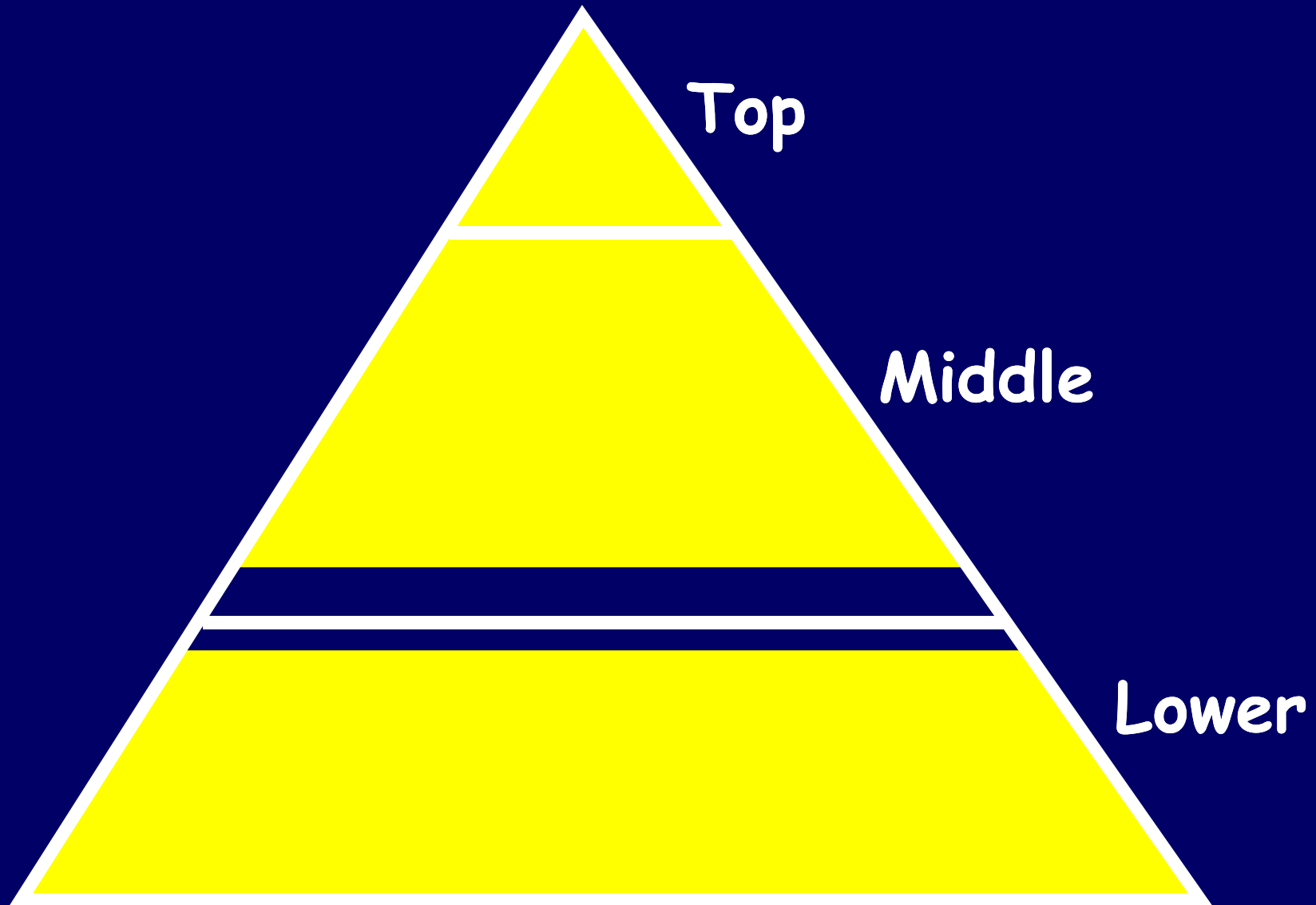
Capacity and Skills

- Middle Management Gap
 - DWAF, Water Boards, Metros

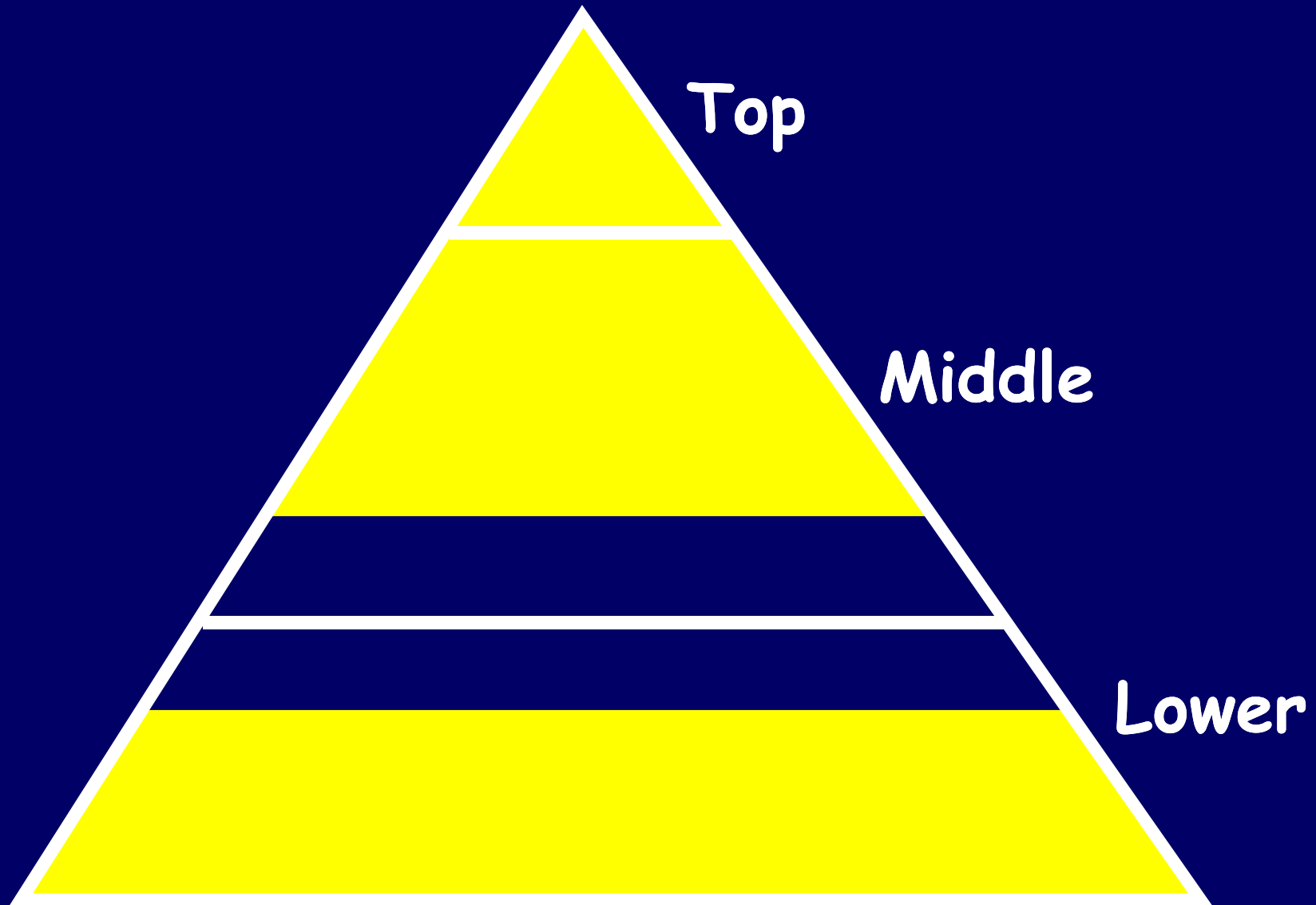
Middle Management Gap



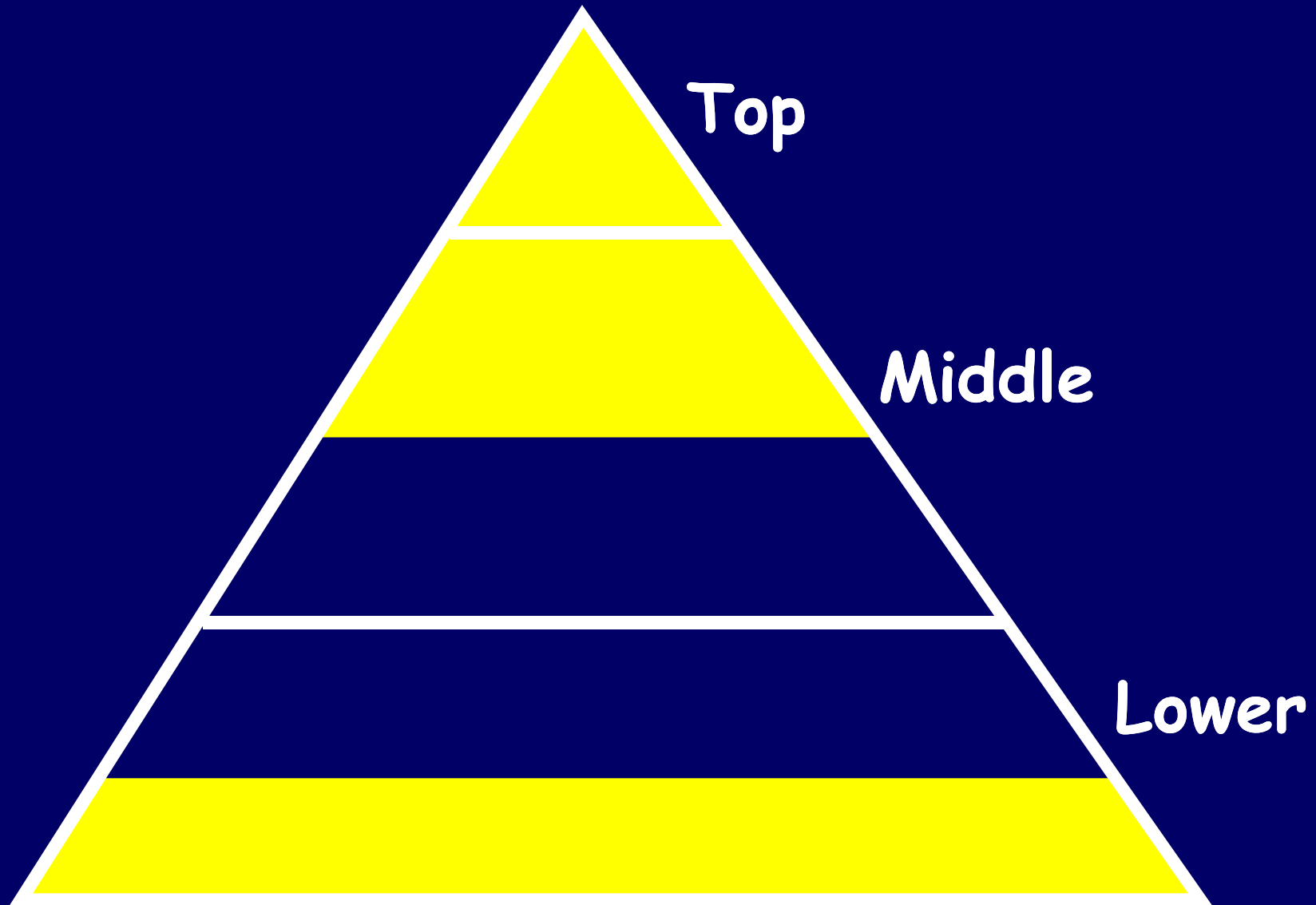
Middle Management Gap



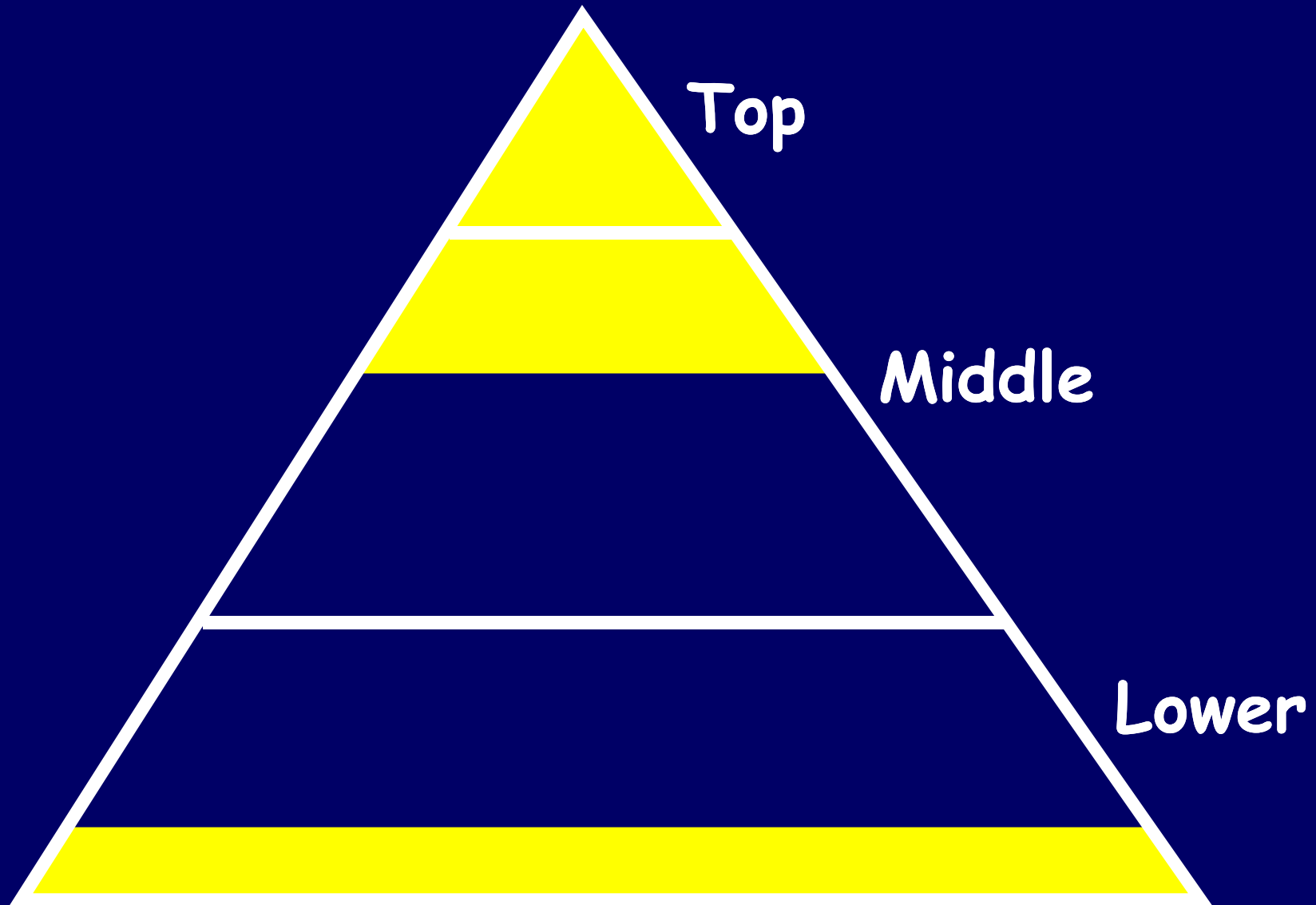
Middle Management Gap



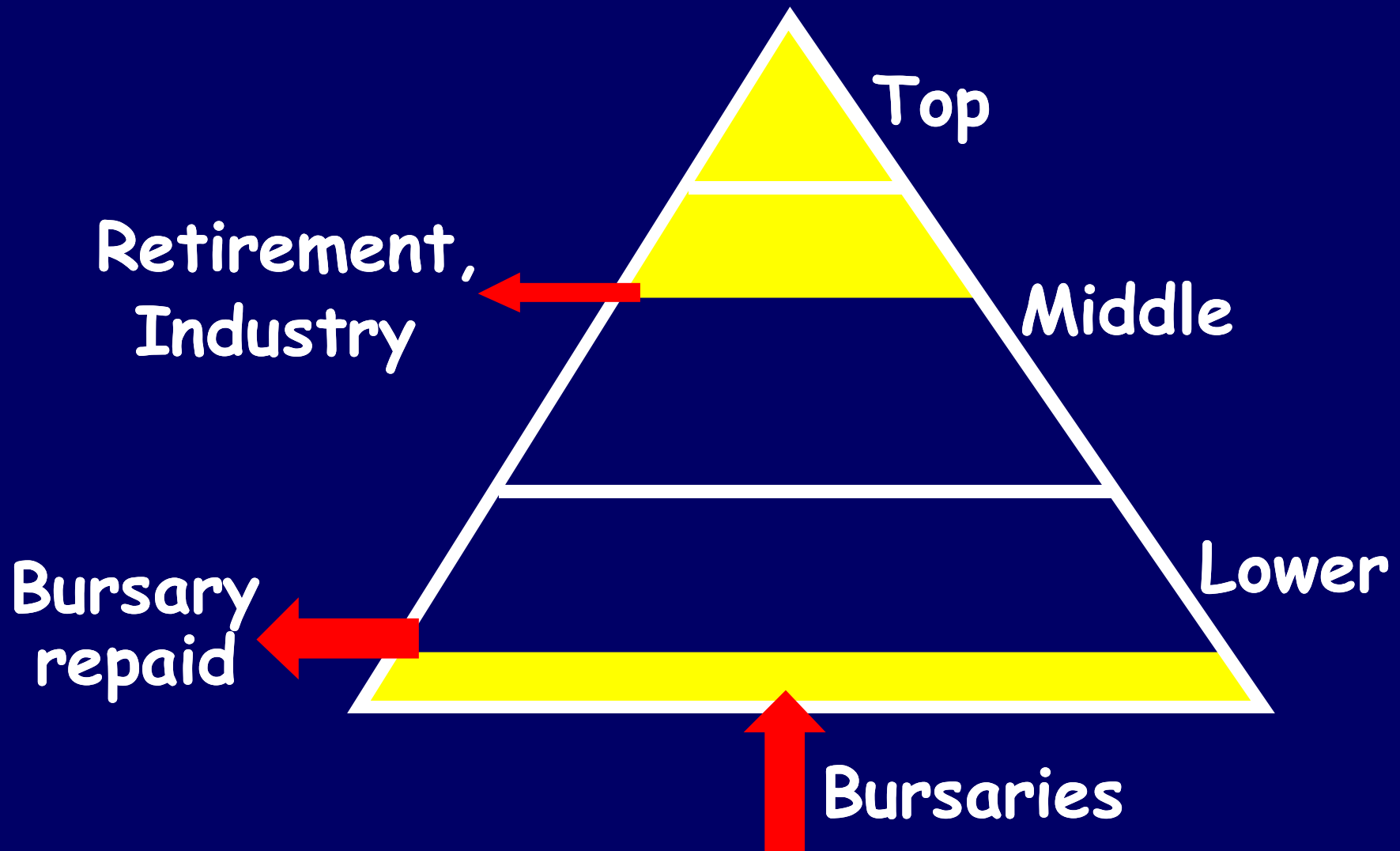
Middle Management Gap



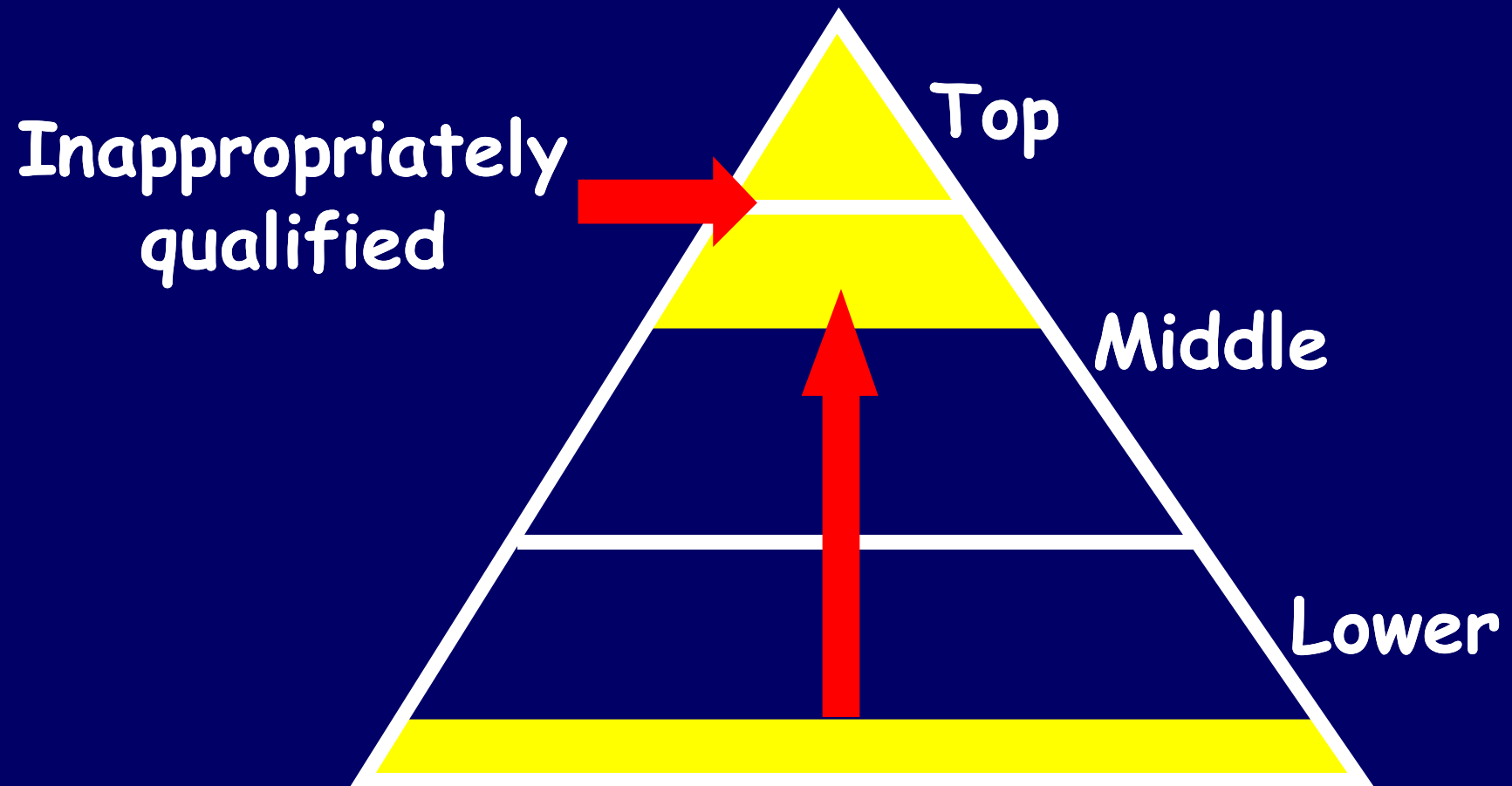
Middle Management Gap



Middle Management Gap



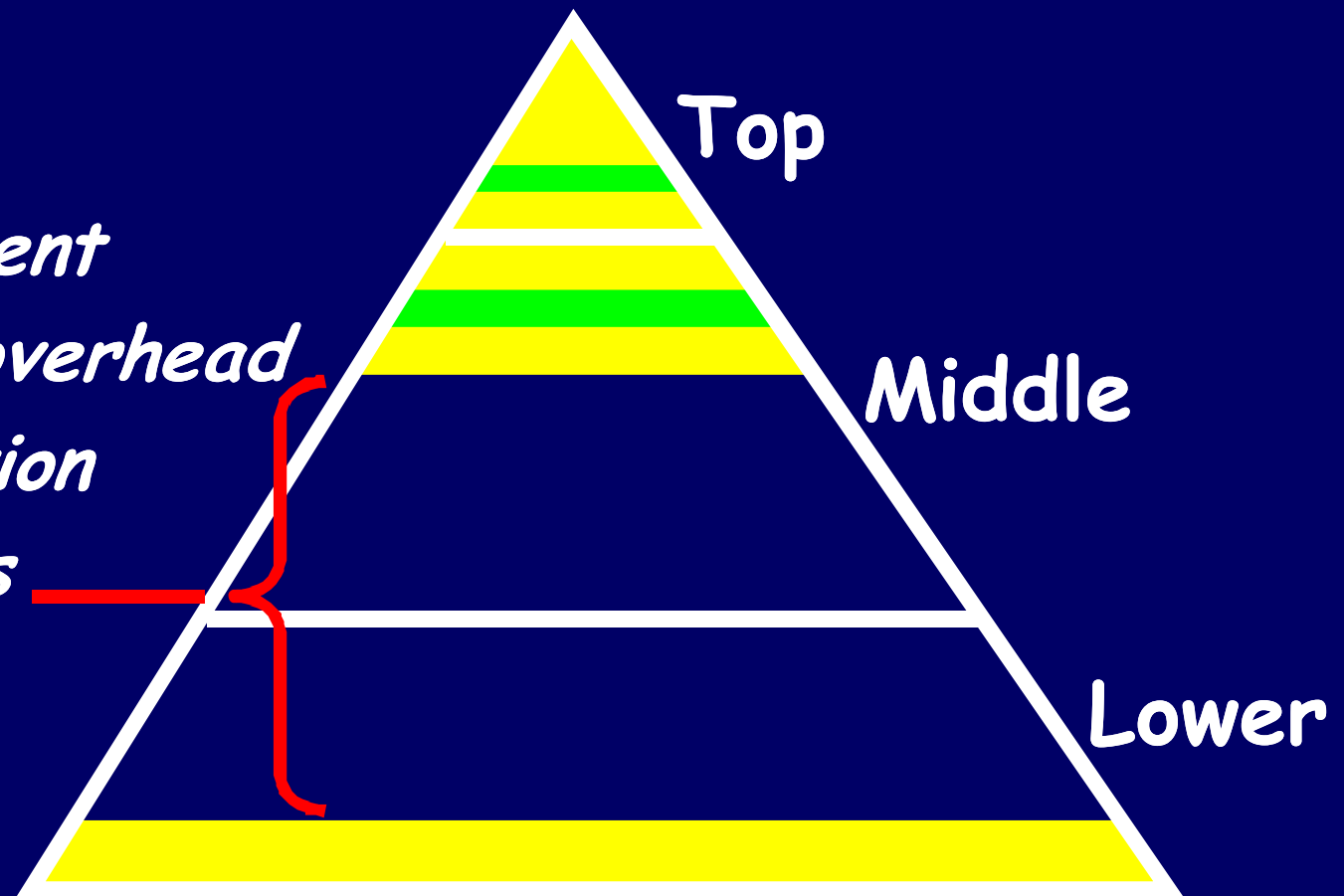
Middle Management Gap



Middle Management Gap

Result:

- *Dilution*
- *Disillusionment*
- *Increased overhead*
- *Communication*
- *Gap remains*



Capacity and Skills

What's happening:

- Widening gap
- Managers becoming inaccessible
- Essential functions beginning to crack

→ *National crisis!*

Capacity and Skills

Act not being implemented

- ✦ Reasons?

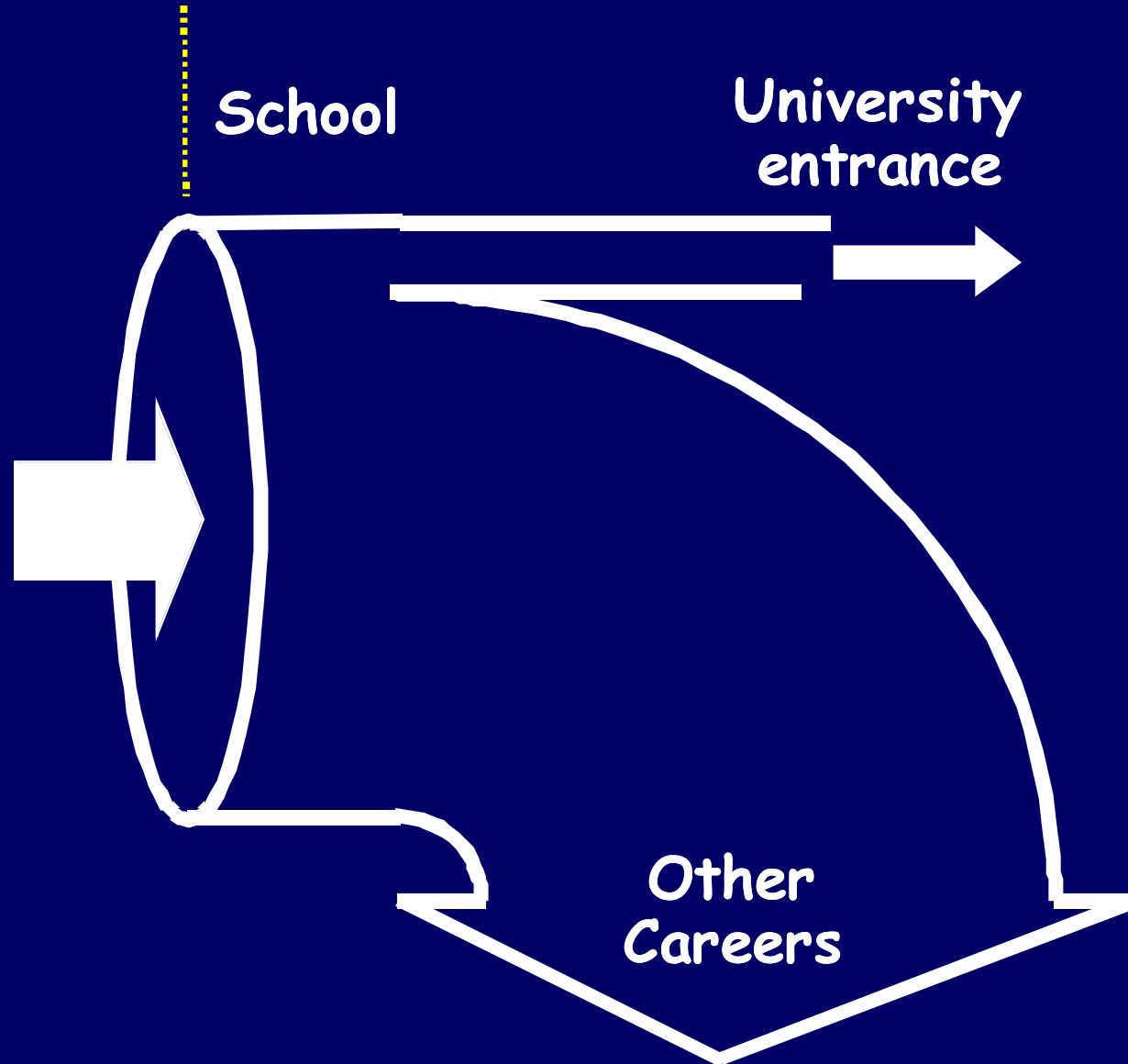
Insufficient capacity

- ✦ Local Authorities

- ✦ DWAF, Water Boards, Metros

Education

Year: 0



Education

Year: 0

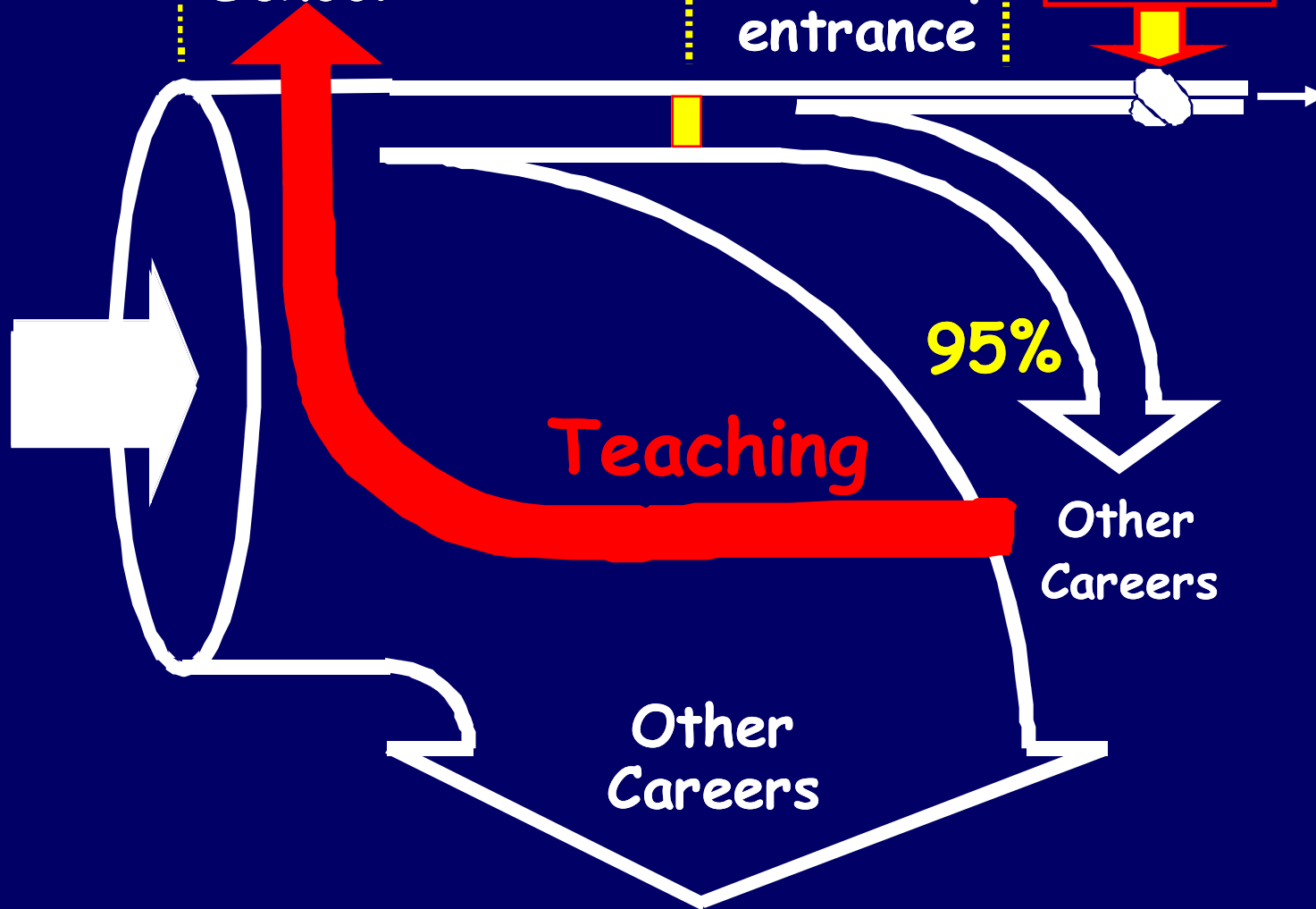
9

12

School

University
entrance

Maths
Literacy



11 YEARS

Year: 0

7

9

12

16

18

School

University
entrance

Maths
Literacy

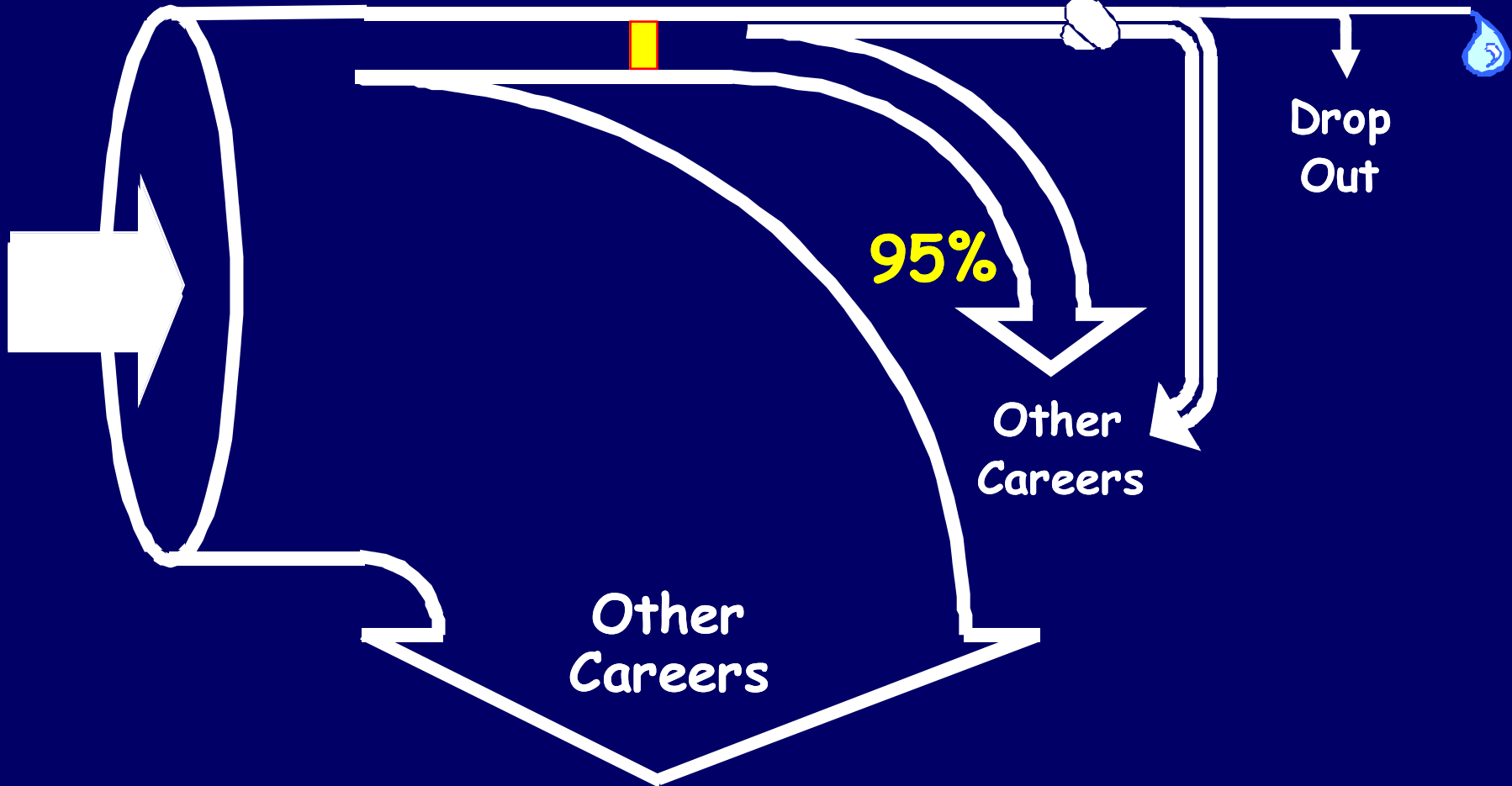
CPD

Drop
Out

95%

Other
Careers

Other
Careers



EDUCATION

- HDI targets not being met
 - ✦ Maths and science teaching
 - ✦ Only ~1000 HDI with core maths
- Throttled by Maths Literacy
- Even core maths under threat
 - ✦ From next year can elect not to do geometry!
- >11 years needed to ramp up output

EDUCATION

→ *National crisis!*

5.

What Next?

What Next ?

- Build capacity in Local Authorities
- Build capacity in DWAF
- Link resources and demand management
- Monitoring and feedback
- Establish Waste Discharge Charge System
- Implement effective sanitation
- Refurbish and maintain infrastructure
- Revamp maths and science education

What Next ?

- Open up and collaborate!
 - ✦ DWAF is closed to consultation on key issues
- Prioritise!
 - ✦ Given capacity constraints, focus on priorities, not "nice to haves"
- Programme!
 - ✦ The Act does not require everything to be done at once
- Simplify!
 - ✦ Some parts of the Act and particularly the regulations are too complex and need to be simplified to be feasible
- Partner!
 - ✦ South Africa still has many highly regarded skills in the water sector. They must be harnessed and fully used

From Crisis to Opportunity