

The role of scientists in Acid Mine Drainage policy response in Gauteng, South Africa

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Presentation Outline

- Acid Mine Drainage in Gauteng
- The Advocacy Coalition Framework (ACF)
- ACF Application: AMD as a policy subsystem
- ACF Application: AMD coalitions
- ACF Critique and considering framings
- Conclusions

Focus

- Understanding the AMD policy subsystem and the role of scientists within it



What is AMD?

Image from the
Krugersdorp Nature Reserve on
the West Rand of Johannesburg



- It is triggered by a **chemical process** that results in water becoming acidic; rich in sulphates and metals.
- It is particularly problematic in **closed down or abandoned mines** where pumping has stopped.
- It is a serious **environmental hazard** and has adverse **socio-economic impacts**.

Acid Mine Drainage (AMD) in Gauteng



- **“Big news” since 2002:** West Rand of Johannesburg decant AMD (mining stopped in 1998).
- Central basin and eastern basin due to spill soon.
- In 2010 Inter-Ministerial Committee appointed a Team of Experts to develop an integrated short-, medium- and long-term solution to the AMD policy issue. This government response came after considerable publicity in the media and threats of legal action by NGOs.
- **Complexity:** historical link between government and mines, lack of inter-departmental coordination, scientific uncertainty, many actors involved.

The Advocacy Coalition Framework (ACF)



Unit of Analysis is the policy subsystem:

- Made up of actors from a variety of public and private organisations who are actively concerned with and trying to influence a specific problem and related policy.

Advocacy coalitions form which advance conflicting policy arguments:

- Coalitions form because of shared policy core and secondary beliefs (not because of institutional affiliation).

Importance of scientific and technical information:

- Can be used to legitimise arguments against opponents.



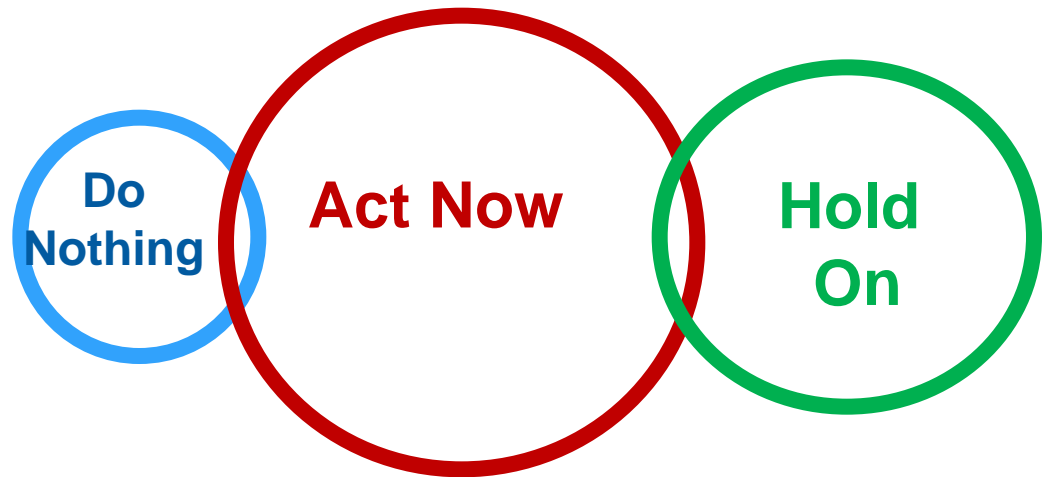
ACF Application: The AMD Policy Subsystem

- Actors from public and private organisations actively concerned with and trying to influence the AMD issue.
- **Actors include: government, scientists, commercial interests, non-governmental organisations, the media, the public.**
- Actors seem to have clustered around **three main coalitions.**

ACF Application: AMD Coalitions

- Tied to perceptions of **severity & urgency**.
- In **reaction to 2010** events.

<u>Coalition members</u>
Basic value priorities
Group whose welfare is of greatest concern
Seriousness of the problem
Cause of the problem
Distribution of authority
Policy preferences



Scientists	Scientists, Government, Private Consultancies	Scientists, Civil Society, Media
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ACF: Critique and considering framings

- Dynamics within coalitions are not sufficiently explained (Hysing and Olsson, 2008).
 - Not necessarily as homogenous and coordinated as ACF suggests.

Do Nothing

- Relatively **homogenous** in terms of composition and beliefs .

Act Now

- Coalition was **“forced”** to form, but after much deliberation consensus developed around short-term response.
- Much **debate** still about medium- and long-term solution.

Hold On

- Very diverse scientific views around key points.
- Treatment options:
 - Technology choice
 - Centralised or decentralised?
- Uses of water
 - Drinking water
 - Crop irrigation

ACF: Critique and considering framings

- Dynamics between coalitions and policy subsystem developments are not sufficiently explained (Hysing and Olsson, 2008).
 - Cannot explain why previously opposing Act Now and Hold On coalitions are moving closer together.

Do Nothing	Act Now	Hold On
	<ul style="list-style-type: none">• No consultation for short-term solution but increasing involvement of members of Hold On Coalition to define medium- and long-term solution.	<ul style="list-style-type: none">• Actively engaging medium- and long-term solution process, despite frustrations with short-term solution.• Who within this coalition will be heard?

ACF: Critique and considering framings

- The role of scientists in AMD policy subsystem and policy response is not sufficiently explained.

Do Nothing

• Scientists as “ivory tower” critics of government process. Provide advice when asked.

Act Now

• Scientists as advisors and supporters to government and the Hold On Coalition.

• Scientists can be inconsistent in what they say and do depending on funding or audience.

Hold On

• Scientists from the Hold On Coalition have very diverse views around the response to AMD.

• They contribute to the uncertainty regarding a preferred policy response in this coalition.

• They expose the Act Now Coalition to a variety of treatment options, not only the most obvious one.

Conclusions

Focus: Understanding the AMD policy subsystem and the role of scientists within it.

- ACF is **relevant** to the study of AMD:
 - Policy subsystem is a valuable unit of analysis.
 - Helps us understand AMD coalitions.
 - Acknowledges that science plays an important part.
- ACF has **limitations** in explaining:
 - Intra- and inter-coalitions dynamics.
 - Role of scientists in a policy subsystem and policy response.
- **Way forward**
 - Using ACF in conjunction with other perspectives for example considering how an issue is framed by different subsystem actors
 - What can this tell us about the issue that ACF cannot?
 - Practical use and value of this analysis.



Thank you