

# Collaborative knowledge production in water and land management

John Colvin (Environment Agency)

Fergus Lyon (Middlesex University)

and Frances Harris (Kingston  
University)

# Setting the scene

Jeremy Phillipson:

- Understand the role of knowledge brokers
- Need for case studies highlighting the application of research in policy and practice

# Setting the scene

- John Colvin (Environment Agency) - **knowledge brokering in policy making**
- Fergus Lyon (Middlesex University) - **researchers, brokers and farmers**

# RELU models of knowledge exchange

**Linear model of knowledge exchange**



**‘Feedback model’ of knowledge exchange**



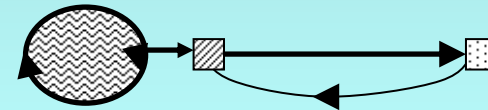
**‘Collaborative model’ of knowledge exchange**



**The ‘joint production of knowledge’**



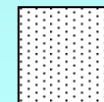
**‘Systems model’ of knowledge exchange**



*Knowledge producer(s)*



*Knowledge user(s)*



# Linear and feedback models

Linear model of knowledge exchange



‘Feedback model’ of knowledge exchange

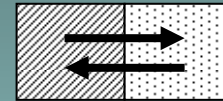


“...what is interesting is the persistence of at least an implicit ‘technico-rational’ model in the promotion of research initiatives, in the face of evidence to the contrary and despite a large and growing body of literature that shows such a model to be deeply flawed...”

*ESRC Transdisciplinary seminar series: Knowledge & Power*

# Collaborative model

‘Collaborative model’ of knowledge exchange



- Knowledge users involved throughout the research process, from problem framing to the dissemination of outcomes
- Division of labour maintained between producers and users

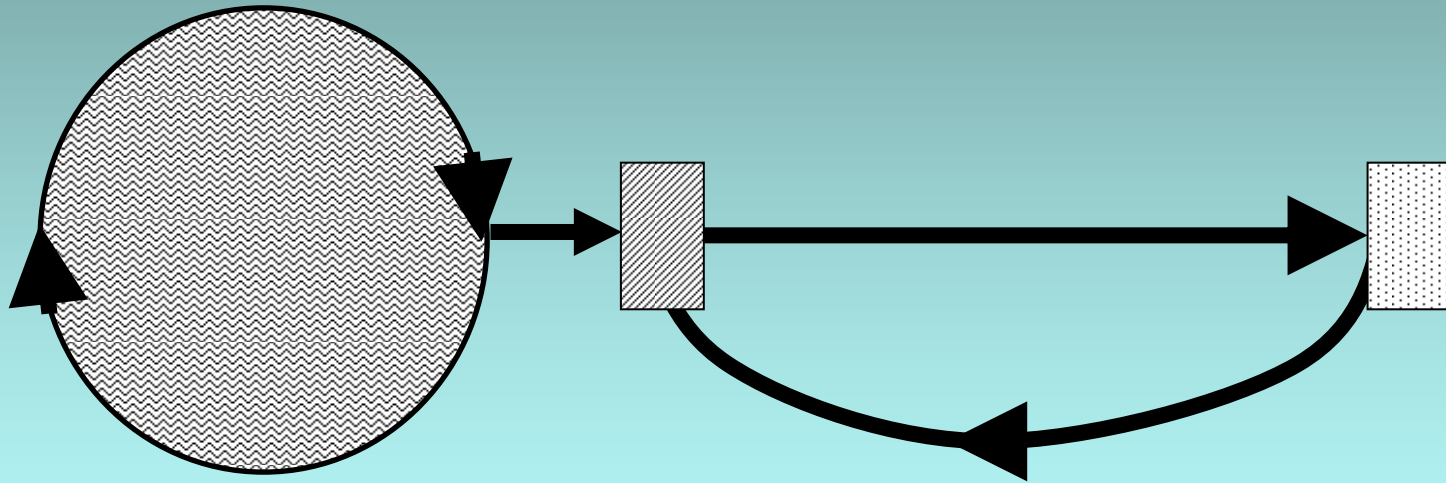
# Joint production of knowledge

Joint production of knowledge



- Boundary between knowledge producers and users is dissolved
- Multiple forms of expertise between academics, practitioners and ‘publics’ are considered legitimate
- Knowledge generated through mutual learning and iteration

# Systems model of knowledge exchange

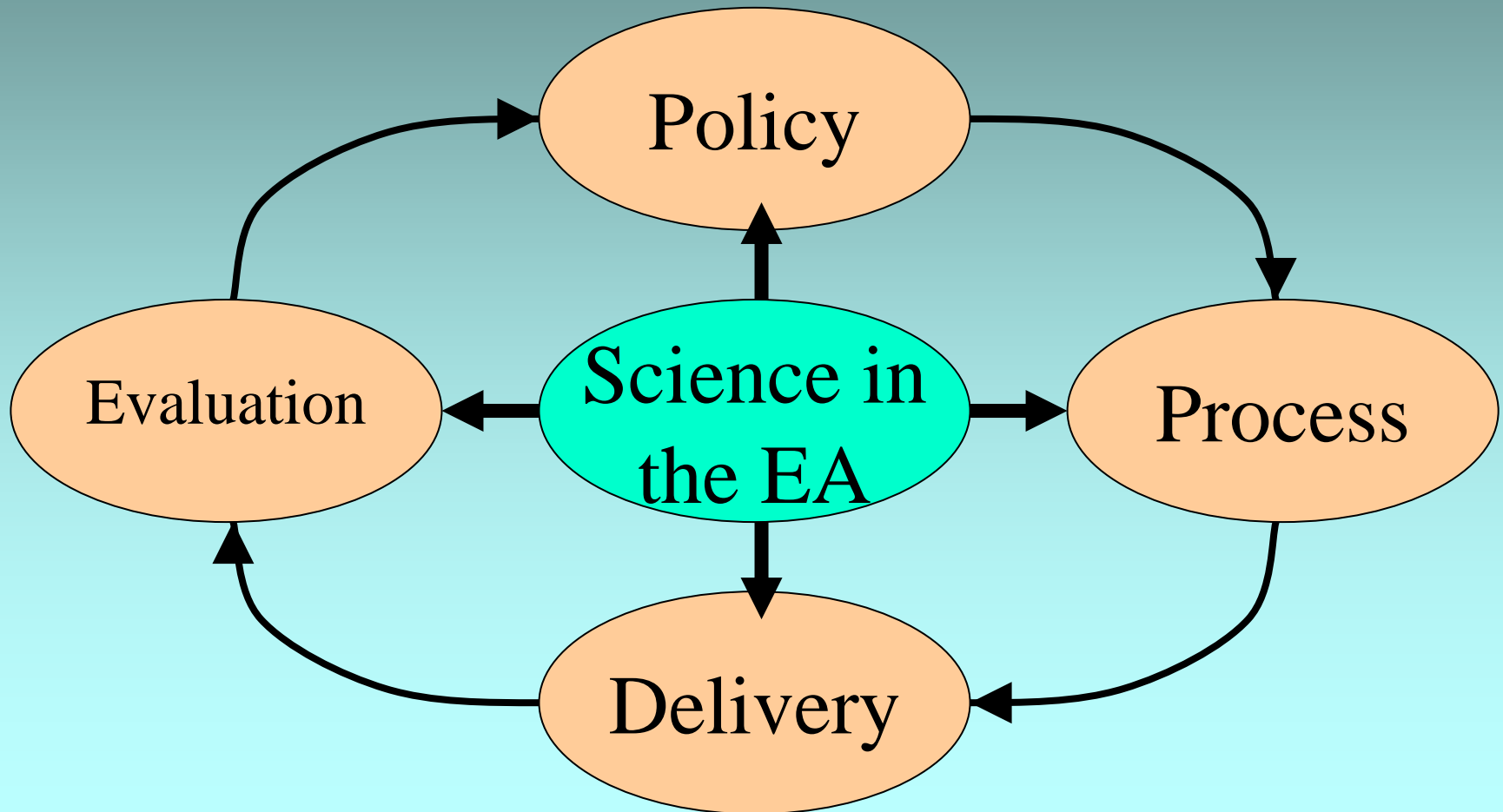




# Knowledge brokers

- Think tank organisations and evidence hubs
- Technical consultancies
- Business advisors and field specialists
- Knowledge transfer brokers within research councils
- Technology transfer companies
- University - business development departments

# Knowledge brokering in policy making



# The policy process

“There is a need for increased **mutual** understanding of the policy process – how it operates, what are potential barriers to science influence in particular policy contexts, how science is used, retained and negotiated in policy making”

Owens, Petts, Bulkeley - ESRC Transdisciplinary series:  
Knowledge & power, 2005

# Environmental inequalities - a case study of cross-cutting knowledge brokering in policy making

Helen Chalmers & John Colvin

Addressing environmental inequalities in UK policy: An action research perspective

*Local Environment* 10 (4), 333-360, August 2005

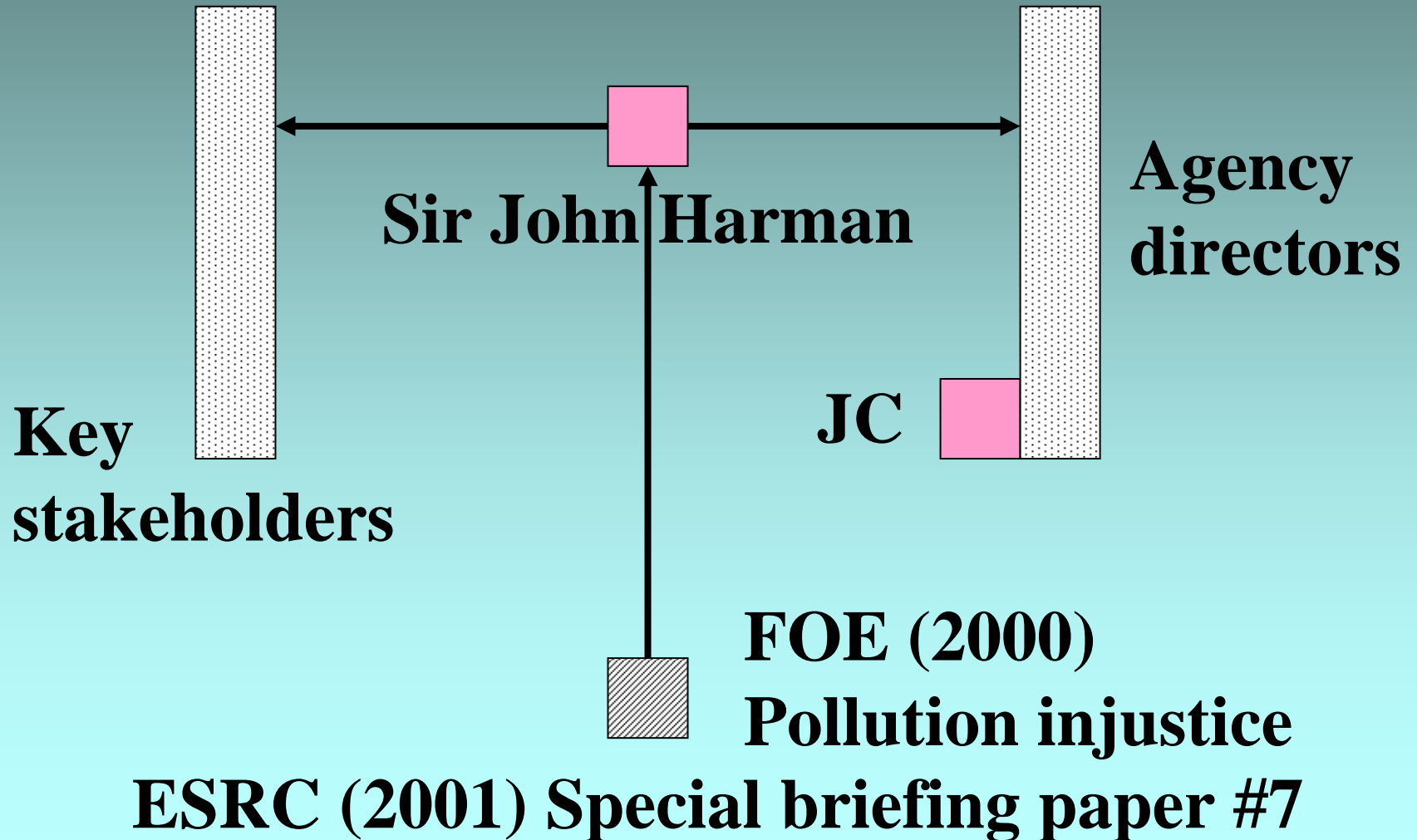
# Issues to look at

- The process of knowledge brokering
- The experience of knowledge brokering
- Our approach to knowledge brokering
- Some lessons learned

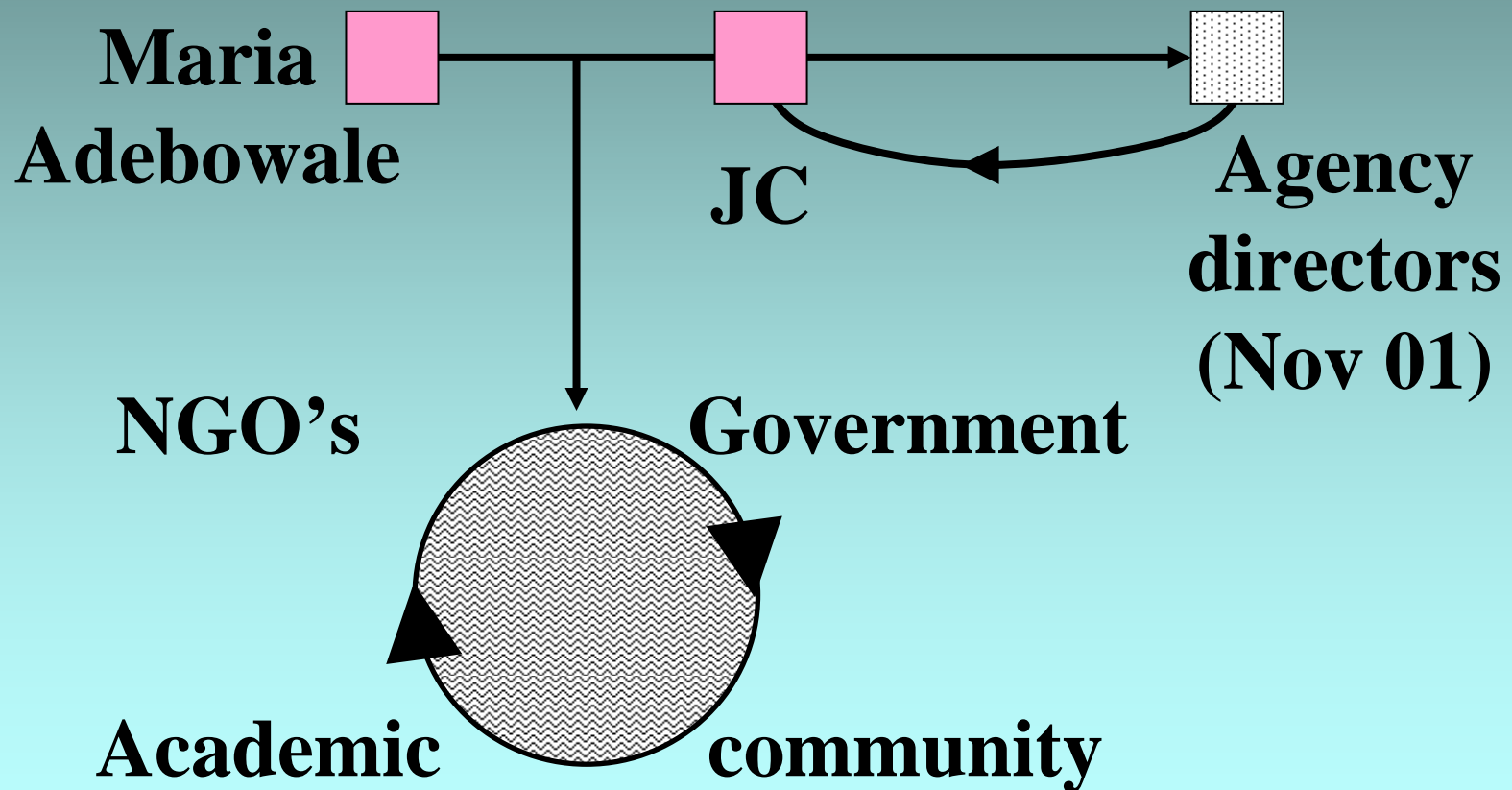
# Putting environmental inequalities on the policy map (EA & Government)



# 1. Early leadership (EA AGM, September 2000)



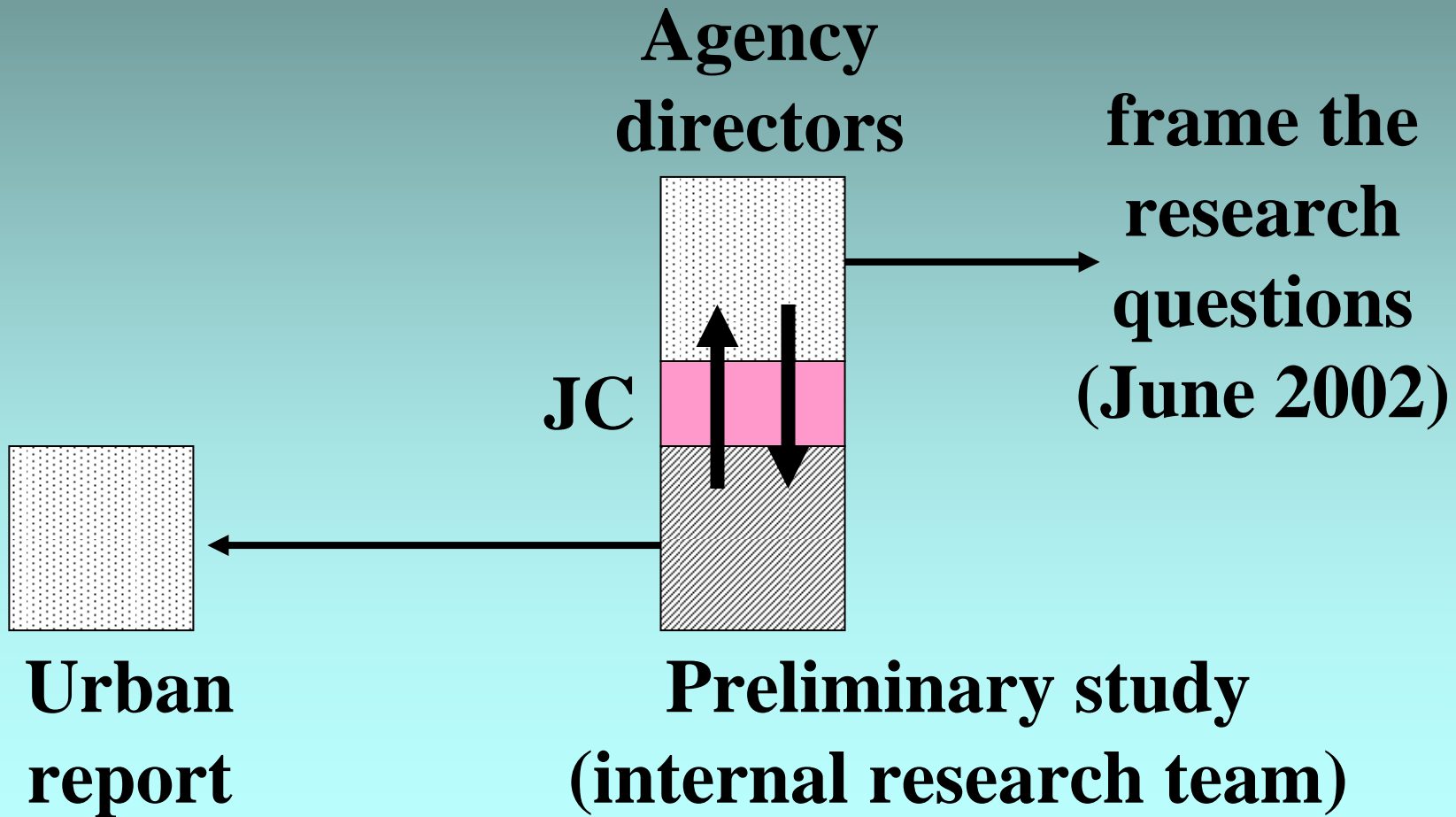
## 2. Building early alliances (Mapping Common Ground event, October 2001)



**Map the issues; map current work**



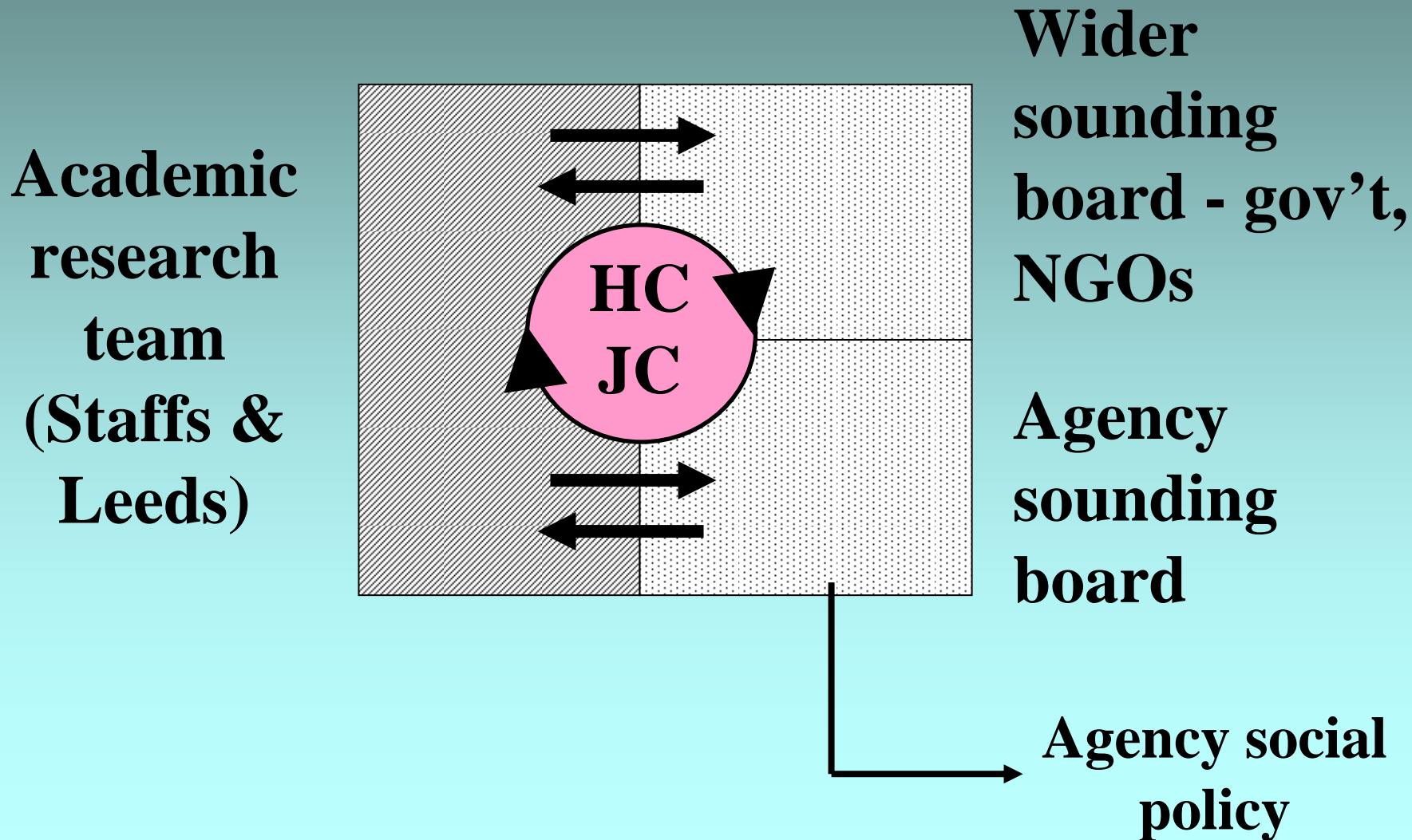
### 3. Framing the questions (January - July 2002)



# The research questions

- Improve the Agency's understanding of the relationship between social deprivation and environmental quality
- Clarify the Agency's role in addressing environmental inequalities
- Clarify the Agency's expectations of others in addressing environmental inequalities

# 4. Gathering the evidence (February - June 2003)



# Key findings

- Deprived communities bear the greatest burden of poor air quality
- IPC sites are disproportionately located in deprived areas in England
- Tidal floodplain populations in England are strongly biased towards deprived communities

# Sites, Authorisations and Emissions (using 'site in ward' counting method). ENGLAND



Wards in the most deprived decile provide the location for 5 times as many IPC sites and authorisations and 7 times as many emission sources as wards in the least deprived decile

Most deprived

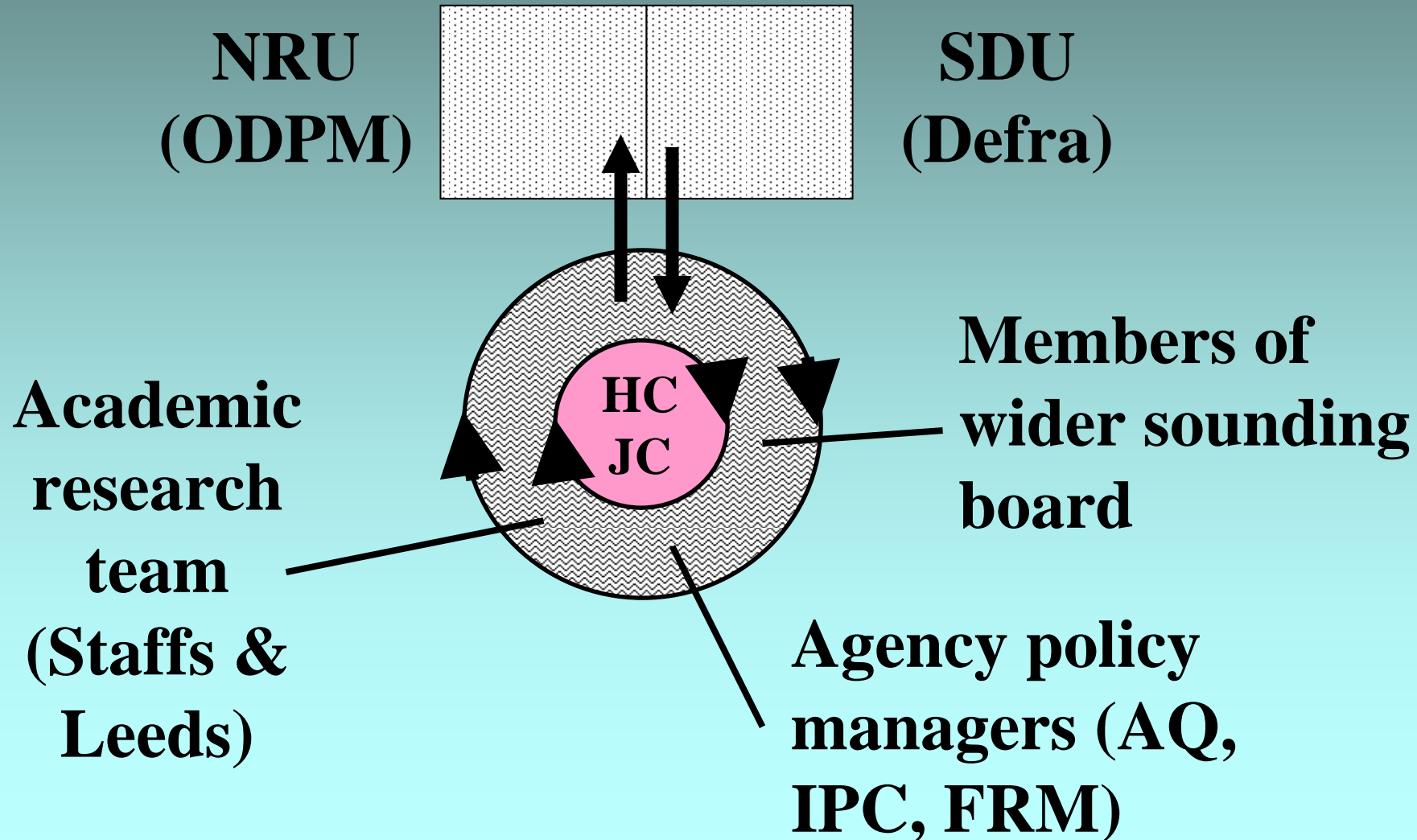
Least deprived

CI values = 0.22 (sites) 0.25 (authorisations) and 0.26 (emissions)

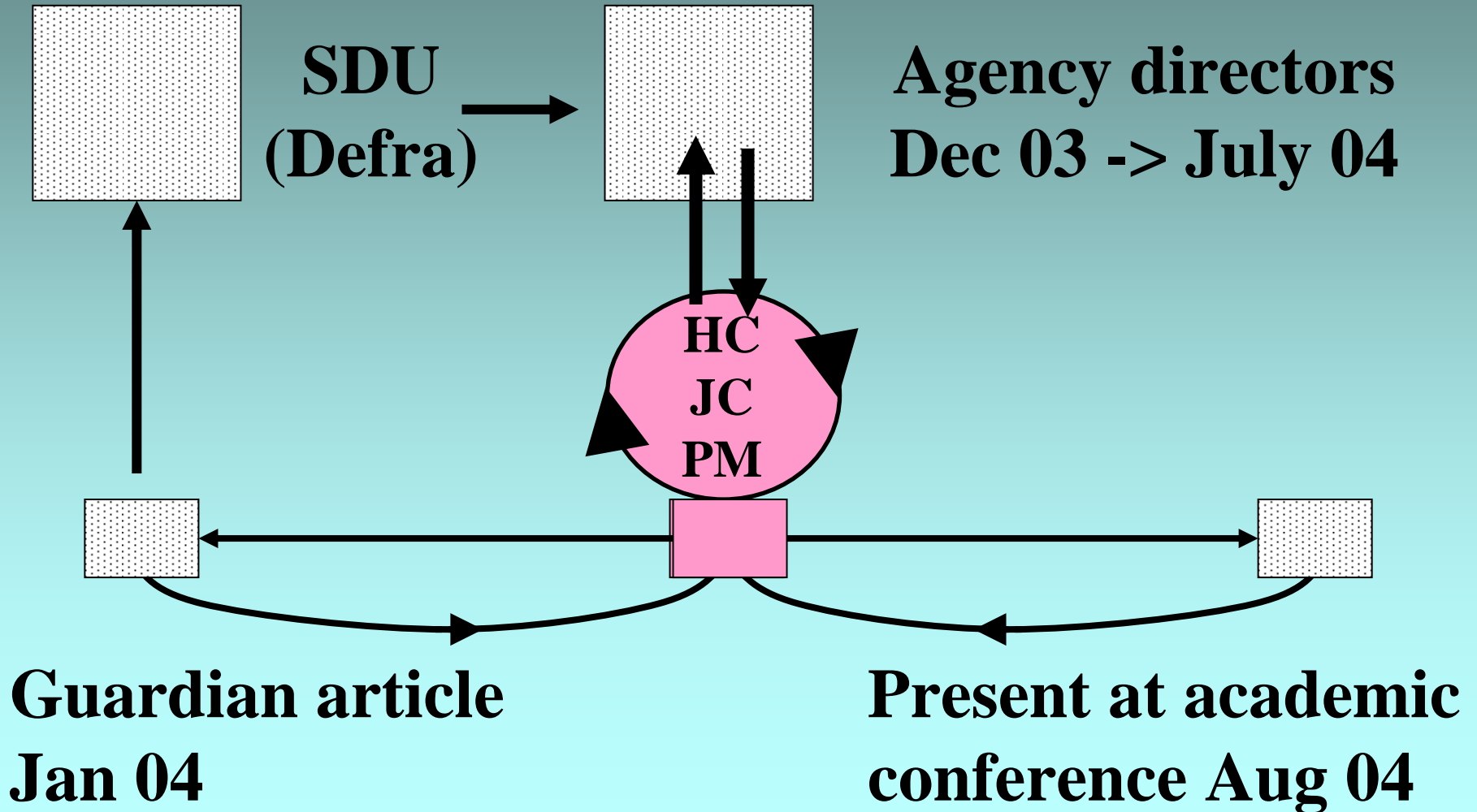
# What this evidence did not show

- Evidence of impact or harm
- Evidence of causation
- Evidence of injustice

# 5. Developing a joint policy narrative (July - Nov 2003)



# 6. Seeking policy commitments (Dec 03 - July 04)





# Agency policy commitments (November 2004)

The Environment Agency will:

- “Do what we can to address environmental inequalities and ensure that we do not contribute to further inequalities in the future
- Continue to carry out research to build a better understanding of environmental inequalities and the most effective ways of addressing them
- Scrutinise our approach to modern regulation and flood risk management to help reduce the risks to deprived communities”

# Government policy commitments (Securing the future, May 2005)

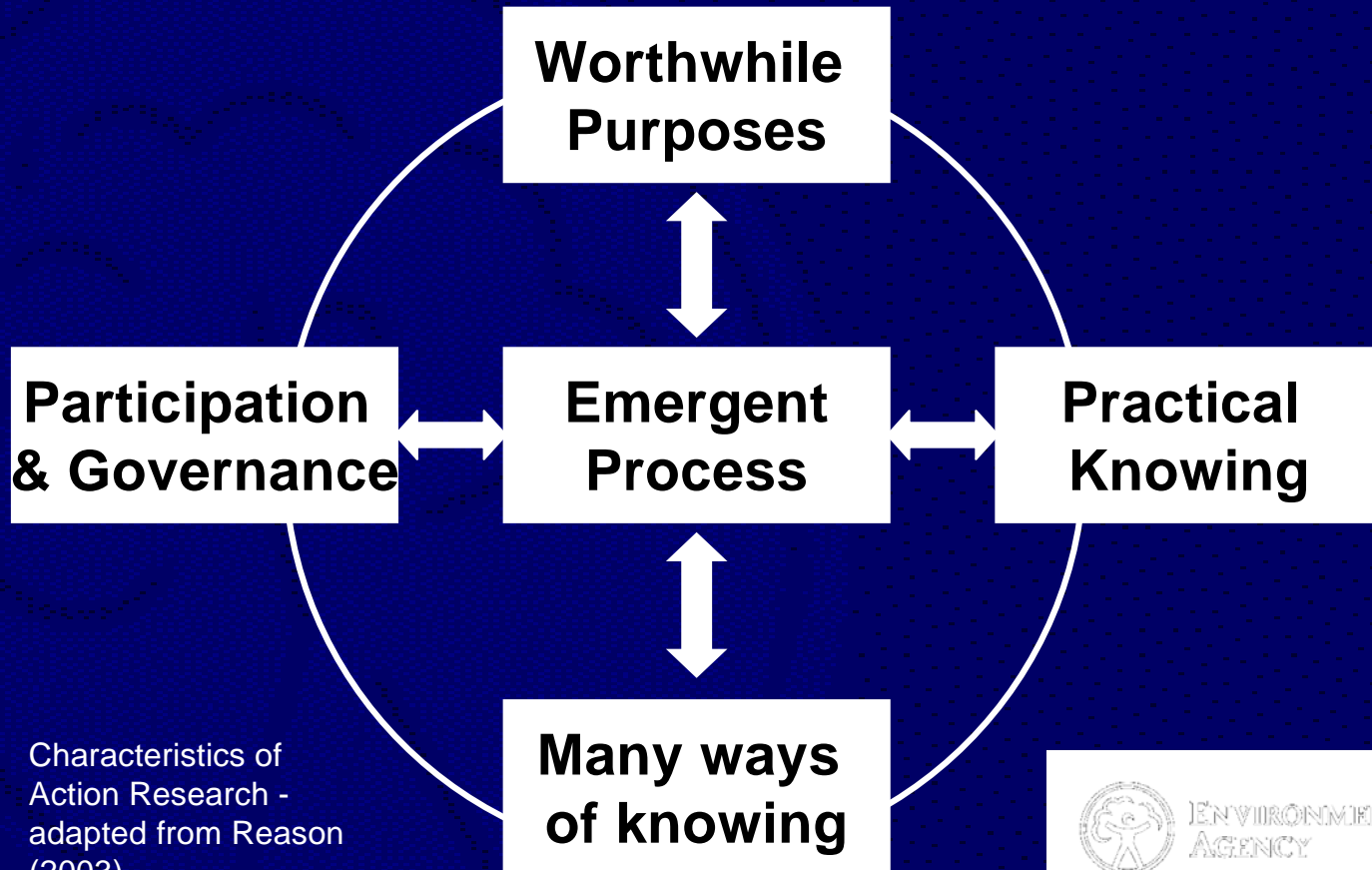
- “The Government will fund further research on the causes of environmental inequality and the effectiveness of measures to tackle it in order to establish the best ways to tackle these issues in communities”
- “While we carry out further research to help identify the areas with the worst local environment, the Government will in the short term focus on improving the environment in the areas already identified as most deprived by the Index of Multiple Deprivation”

# Our experience of knowledge brokering

- Had no idea of what it would look like when we started
- Didn't see ourselves as 'knowledge brokers' but placed a high premium on connecting science, policy & delivery
- High premium on learning by doing
- Collaboration with policy-literate research team (Gordon Walker) was key
- Stuck with our intuition and principles but also learnt from our policy colleagues (observation, modelling and reflection)

# Our approach - drawing on action research as a 'meta-framework'

## What is Action Research?



# Lessons

- Opportunities and skills to work simultaneously in the worlds of policy, science and delivery are key
- Collaborative knowledge production is a dynamic, emergent process
- The process of framing the research questions is key
- Different stages of the knowledge production cycle require different models of knowledge exchange
- Role of skilled knowledge brokers is key throughout the process; initially we used skilled facilitators, then took this role on ourselves

# Phillipson - Questions

- What are the approaches to knowledge exchange you are using in your work?
- Who are the primary knowledge brokers?
- How do you envisage the knowledge brokering process emerging in your project?