# Science, Technology and Inequality: an old challenge in a new guise

ResIST Maputo Meeting

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with thanks to Tiago Pereira

**ResIST**

# Overview….

- The ResIST basics
- How the project was built
- Why…why inequality, why S&T and inequality and why now?
- Our stance (why we're here)
- What ResIST is doing, how & when
- Some detail on stakeholder engagement
- The deliverables from that engagement process
- The ResIST team

# ResIST basics

- Researching inequality *through* science and inequality
- April 2006 – March 2009
- €1.3m specific targeted research project
- *Citizens and governance in a knowledge-based society* (priority 7) of FP6
- 11 partners from 10 countries
- Martin Institute at Oxford University coordinating

# The Martin Institute Mandala
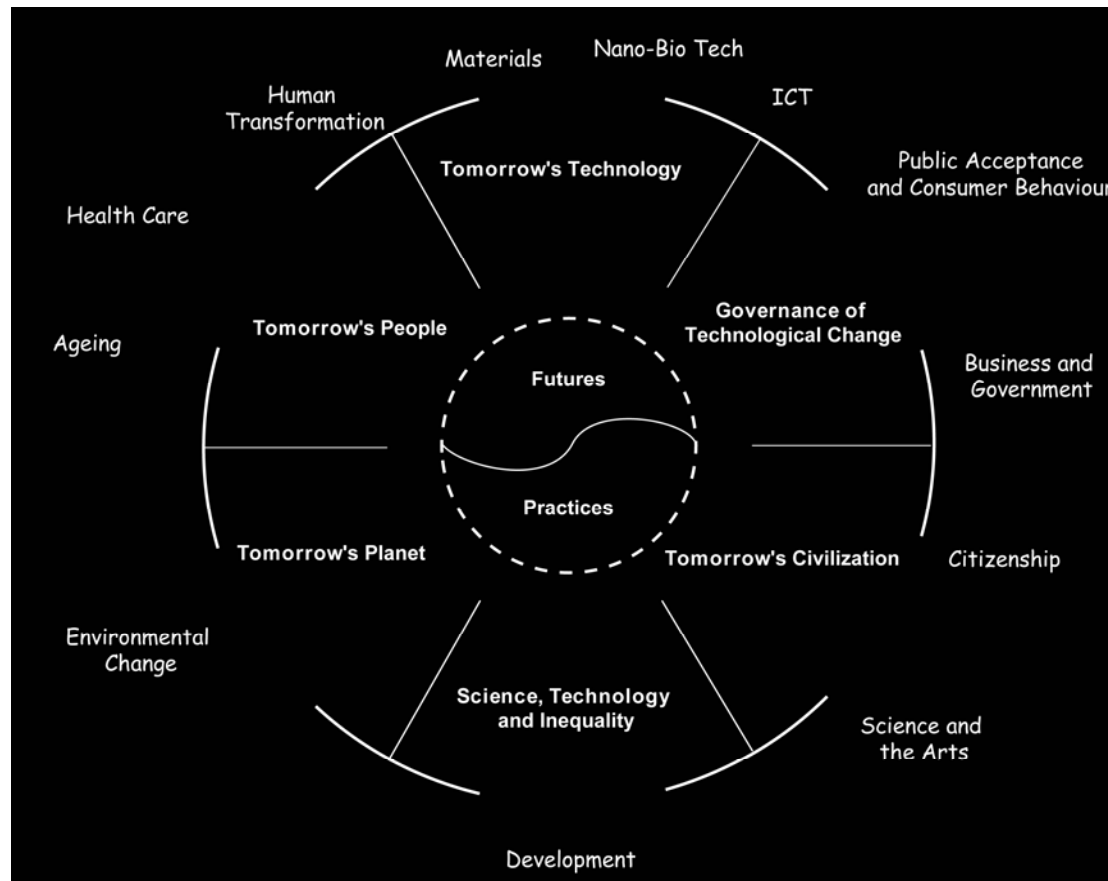
# ResIST's local roots

- Background collaboration at Stellenbosch September 2003 including Susan Cozzens, Peter Healey, Johann Mouton, Frank Teng-Zeng, Arie Rip, and Peter Weingart – thanks to the South African Department of Science and Technology
- CAPE Framework drawing strongly on Cozzens et al on three dimensions of inequality and on the STAGE project on S&T governance
- **Economic and Social Research Council UK development grant Jan-April 2005 some £7.5k**
- Proposal for €1.6 m submitted April 2005
- Decision September 2005 for €1.3 m over 3 years

# Why Inequality?

- We recognise that inequality is a complex and multidimensional issue
- We don't start with the proposition that inequality is always bad and the obligation to remediate it is always an overwhelming social obligation
- However, we do believe that major inequalities are a significant cause of personal unhappiness, social injustice and political instability
- Because of this there is an obligation to scrutinise all governance systems & look at scope for more socially inclusive policies

# Why S&T?

- The most pervasive and obdurate sources of social distribution are enshrined and entrenched in S&T systems

- Because of their entrenchment these sources are often seen as technical and thus overlooked & seen to be beyond the scope of social science analysis

# Why now?

- The Global knowledge economy gives such issues more general salience

- Specific emerging technologies may accelerate inequalities and raise the spectre of sociotechnical or – at the extreme - biological speciation

- Wide range of reasons in current world to address all the bases of inequality

- Research policy space opening up for consideration of these issues with debates about the failure of the UN, of the Bretton Woods institutions, of the failure of the WTO Doha round, and  - in Europe – rethinking  the Lisbon agenda & Constitution

# What is the basic ResIST stance?

ResIST aims to understand processes that contribute to the increase of inequalities *through* S&T  but also which contribute to the mitigation of inequalities *through* S&T

ResIST wants to root its work in affected communities

- issues

- key cases

- sources/data

- solutions/alternatives

# Challenge 1: The Influence of Policy Contexts & the scope for change

leads: Susan Cozzens (GT, USA) & Egil Kallerud (NIFU-STEP, Norway)

- ⌘ <u>Key Questions</u>.  How do policy contexts for key S&T processes affect the production and distribution of knowledge resources, and what is the scope for alternative framings and policies?  What is the capacity of the 'knowledge economy' to address and frame key issues of inequality and development? Who buys in to it and why? What are the key issues, policy actions and actors that affect outcomes?
- ⌘ <u>Our approach</u>.  ResIST will analyse
  - ⬧ Existing policies for the knowledge economy
  - ⬧ Inequalities in the knowledge economy
  - ⬧ Inequalities in S&T policies – national, European & global
    - – Intellectual property rights (WTO,WIPO)
    - – Research and innovation policies
    - – Human resources
    - – Regulation, etc
  - ⬧ and undertake policy synthesis for a continually updated framework paper focused on the scope for change
- ⌘ <u>Methods</u>.  Analytic review of policies and interviews with key policy actors.
- ⌘ <u>Early output</u> .   Position paper as an input to stakeholder dialogue

# Challenge 2: Building Capacity in the context of Global Scientific Mobility
leads:  Louise Ackers (Leeds, UK) & Johann Mouton (Stellenbosch, SA)

- <u>Key questions.</u>  Following earlier policies focusing on large investment policies as levers of growth, there is now much more attention on the role of human capital in institutional capacity building.  Yet the dynamics of this very mobile and thus very volatile factor are poorly understood.  How can we better understand and manage scientific migration and location decision-making, the relationship between human mobility flows and processes of knowledge transfer, the role of diasporas in capacity building, and the importance of career opportunities as resources in their own right?

- <u>Our approach</u>.  ResIST will examine scientific flows between  the UK, Germany, Turkey and South Africa and undertake case studies of two world regional magnets – the UK in relation to Europe and South Africa in relation to Africa - in order to understand
    - Degree of European dependence
    - The quality and characteristics of flows (who, what stage of careers, investments made, skills generated and who underwrites the costs)
    - Retention, settlement and propensity to return
    - Policies and costs intended to underwrite return and resettlement
    - Mobilisation of the diaspora in situ – a real option?

- <u>Methods</u>.  On-line questionnaires and interviews on a smaller sample.

- <u>Early outputs</u>.  Framework papers on the world regional contexts.

# Challenge 3: Articulating New Accountability Systems

leads: Steve Woolgar (Oxford, UK) & João Arriscado Nunes (CES, Coimbra)

- ✿ <u>Key questions</u>.  Given that accountability systems embody normative assumptions about the purposes and uses of S&T, and that the boundaries between alternative systems and conventional policy and practice are an important site of contestation  in scientific governance and one where any reconfiguring of interests can take place, what can we learn from alternative accountability systems that might privilege or protect the poorest?

- ✿ <u>Our approach</u>.  ResIST will look at the construction of alternative accountability systems in two contexts:
    - experimental initiatives in capacity building and priority setting with the aim of remediating inequality and/or democratising science
    - redistributional issues associated with the design, development, access to and use of mundane, everyday technologies: textile lifecycles, electronic waste lifecycles and vaccines.

- ✿ <u>Methods</u>.  Case studies and ethnographic enquiry.

- ✿ <u>Early outputs</u>.  Literature reviews.  Cases of innovative experiments & mundane technology impacts.

# Challenge 4: Assessing the Distribution of New Technologies

leads: Susan Cozzens (GT, USA) & Aris Kaloudis (NIFU-STEP, Norway)

- ⌘ <u>Key questions</u>. Given that new technologies often lead to new industries which in turn disrupt existing patterns of trade and employment, how far is it inevitable that in this process, knowledge-holding individuals and societies are winners and resource-based livelihoods and societies are losers?  What constructive interventions can be made? Do technologies vary as potential platforms for development that will aid the poor?
- ⌘ <u>Our approach</u>.  ResIST will develop tools for the prospective assessment of the distributional effects of new technologies through three routes
    - – Lowering of costs of basic goods
    - – Improving employment and wages
    - – Public services
- ⌘ <u>Method</u>.  Case studies looking at examples from three 'platform technologies' identified as crucial for development by the Millennium Development Project:  Biotechnology, ICTs, & Nanotechnology in Europe (members and candidates), SSA and hopefully the US and Latin America on additional funding
- ⌘ <u>Early outputs</u>.  Introduction for the world regional meetings

# Challenge 0 (horizontal): Assessing and integrating our work into research policy in Europe & in/with developing countries
leads: Peter Healey (Oxford, UK) and Lídia Brito (UEM, Mozambique)

- ⌘ <u>Key questions</u>. How do we involve policymakers and practitioners in focusing the project, helping us identify key research resources & in identifying and implementing options developed in the course of it? Can we create broader alliances with users that will survive the project and even help to focus local capacity building?
- ⌘ <u>Our approach</u>. Build alliances with policymakers in three world regions from the beginning of the research
- ⌘ <u>Method</u>. Two rounds of policy workshops in three world regions:
  - Europe: EU15, EU+10, and Candidate States
  - Southern Africa
  - Latin America & the Caribbean

  In particular we will test the ground for tools to assess:
  - S&T policy options to develop greater social inclusiveness, in Europe, as well as in developing countries;
  - the possible distributional impacts of research programmes
- ⌘ <u>Early outputs</u>: framework on 3 types of inequality

# Challenge 0
## - Framework on inequalities in S&T

⌘ Structural inequality

⌘ Representational inequality

⌘ Distributional inequality

# Challenge 0
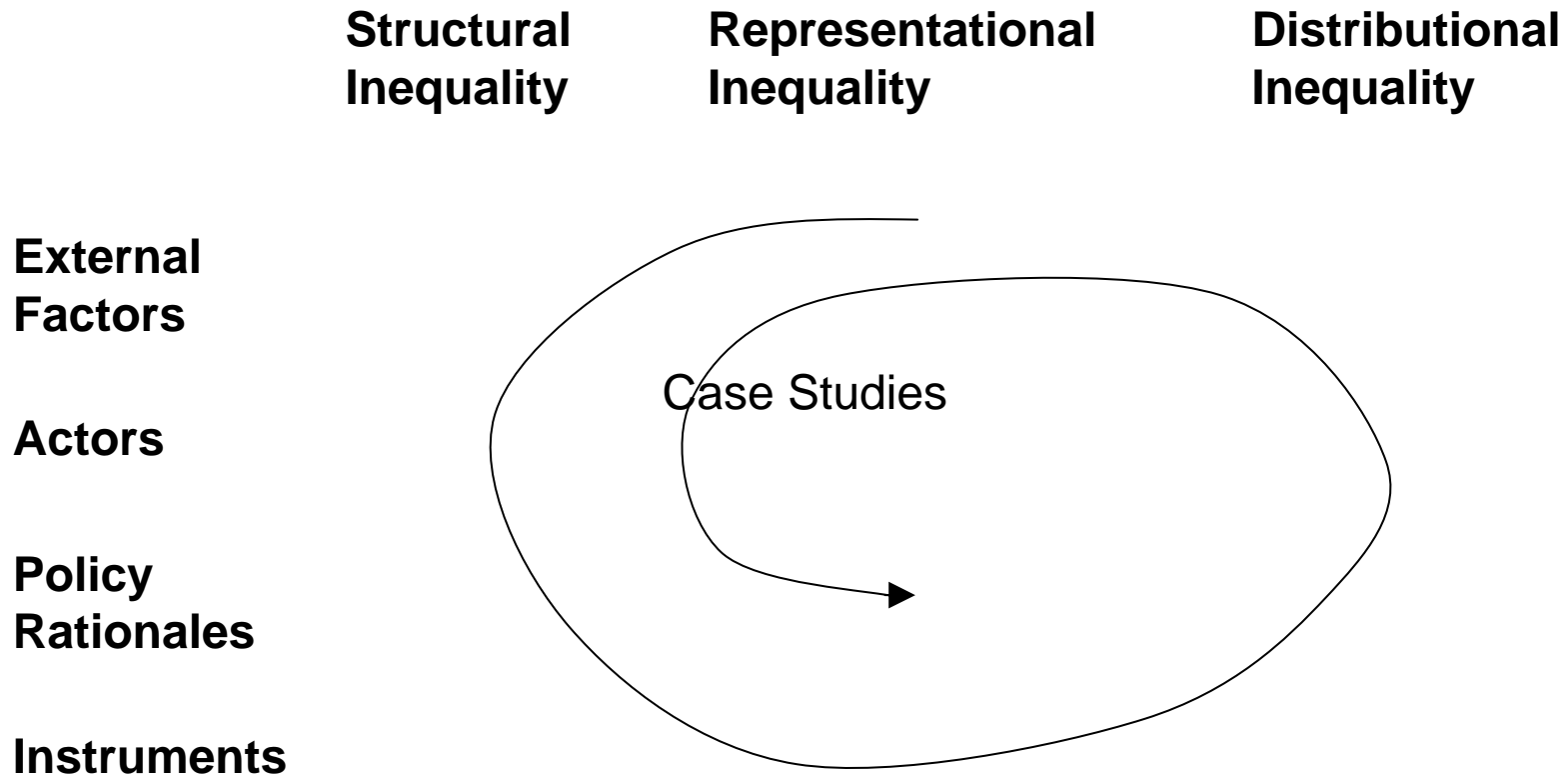## - Policy making process and inequalities

⌘ External factors

⌘ Actors

⌘ Policy pillars/rationales

⌘ Mechanisms and Instruments

# Challenge 0 – contributions from case studies in other parts of the programme

|  | **Structural Inequality** | **Representational Inequality** | **Distributional Inequality** |
|---|---|---|---|

**External Factors**

**Actors**

**Policy Rationales**

**Instruments**

Case Studies

# World Regional Meetings
## - Engaging the stakeholders

- Engaging the stakeholders for
  - Identifying key issues and cases
  - facilitating access (case studies, interviews, data, ...)
  - future collaboration in the analytical discussion
  - developing informal *network* (participation in WPs workshops, email contributions, ...)
  - constructing a permanent *Network* post-ResIST

- Consider further the use of scenario building in order to consider future policy options/research needs – towards the second round

# Deliverables

- World Regional Workshops first round (M 6-9)
  - (?China/Asian workshop?)
- Framework on three types of inequality (M 12)
- Initial overview of agenda and issues (M 20)
- World Regional Workshops second round (M28-30)
- First policy paper – what do the results/insights of the project represent seen against the canvas of needs/policies in our representative regions? (M34)
- Second policy paper – what can we do in developing policy options and policy tools? (M34)

# ResIST team

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