Work Package 1

Policy Dimensions of the Global Knowledge Economy

Introducing Work Package 1

The overall objective of this Work Package has been to "provide[..] a conceptual overview for the project to work with in its early stages and follows through with the framework, revising it and updating in response to results and workshop discussions" (ResIST DoW). Our work has addressed how the policy contexts for key S&T processes affect the production, distribution, and redistribution of knowledge resources, as a basis for exploring and articulating the scope for alternative policies. The specific objectives of this WP has been to produce and present position papers (project deliverables #1 and #2) as a basis for interaction with policy stakeholders in world regional ResIST meetings in Europe, Southern Africa, Latin America and the Caribbean, and – as deliverable #3 – subsequently develop these papers into a scientific publication.

What is the problem?

Social cohesion – the extent to which a society works together towards the inclusion, integration and opportunity for all – depends on the reduction of inequalities. If the gaps between rich and poor are widening; if enduring ethnic identities are also persistently correlated with economic opportunity; if women do not have the opportunity to contribute their talents – social cohesion suffers. Science, technology, and innovation policy will contribute to social cohesion – a stated goal in many countries – if these decrease inequalities rather than increase them. Our studies in the ResIST project, through the variety of contexts analysed, suggest that science, technology and innovation (STI) policies can make a positive contribution to enhancing social cohesion by incorporating among its policy objectives that of decreasing inequalities.

Our study

The study analysed STI policy frameworks in a diverse set of countries, at the EU level, and at the global level. In particular, it analysed the extent to which different STI policy objectives addressed, in an explicit or implicit way, concerns with the social impacts of these policies.

For STI policies to include social cohesion as an objective and to consider the wider impacts of policies explicitly and systematically into account, a change of orientation is required. We identify two opposite STI policy approaches, or *paradigms*, which differ fundamentally in the way they deal with issues of distribution, inequality and social cohesion. On the one hand we consider what we call the "knowledge economy policy paradigm" (KEPP), which delineates an approach or framework which has become dominant during the last decades, in particularly in developed countries. It is narrowly focused on economic objectives, such as growth, productivity and firm performance, and is often seen to be strongly concerned with the economic role of advanced, science-based knowledge. An alternative approach, which we call the "social cohesion policy paradigm" (SCoPP), differs from KEPP in applying a broader conception of innovation, and take the impacts and implications of STI policies on (un)equal social distribution of the benefits and costs of innovation explicitly into account. Our main argument is that a new, SCoPP-based approach in STI policy needs to be developed by addressing objectives that are concerned both with the development of innovations and their social impact, which have up to now been strongly divided under separate social policies and innovation policies.

In our analysis we concluded that STI policy, in both developed and developing countries, has had a central focus on aggregate economic growth and on innovation geared to the competitiveness of national firms. Although social objectives are increasingly included in official statements, these are often not translated into resources or implementation in the STI area as often as competitiveness goals. This is reflected in the structure underlying the dominant STI policy paradigm. On the actors involved, this focuses on private firms as the key site of innovation and gives them a privileged place in decision processes; on the forms of knowledge considered, the paradigm primarily recognizes and encourages knowledge that arises from formal research; and on the structure of knowledge production in industry, its primary focus is science-based technology and high-technology manufacturing and services. In such a structure, STI policies tend to encourage excellence and critical mass in existing centres of knowledge production, often leading to the concentration of research efforts.

The existing KEPP model clearly focuses on the distribution of benefits through the market, in a 'trickle-down' process, and on the importance of market signals for shaping the direction of innovation. In this way, implications of IPR policies for regulating distribution processes and social benefits are considered less relevant *vis-à-vis* its impact as an incentive for innovation. As such, the default STI policy is a standardized, "one size fits all", approach to intellectual property protection.

Regarding questions of representation and of accountability, STI policy tends to over-rely on the input of experts in decision-making, and judging performance based on indicators of efficiency. Accountability processes are often technocratic, dominated by elites, and indicator-based. Similarly, STI policy analysis following this model also focuses on indicators of the operation of the science and engineering enterprise with an eye to economic growth, and with a lower concern on identifying wider social impacts.

Under this dominant paradigm, STI policy assumes that the role of the state is to provide the proper conditions for the development of innovations by the private sector.

Recommendations

- National governments should not only articulate broader goals for the innovation process but also translate those goals into specific policies and programmes.
- STI policies and programmes should promote the conditions for the development of innovation by a wide range of actors and organizations, including public services, communities, and civil society, and involve these in the definition of STI policy decisions, through an active, steering role.
- STI policy should recognize the value of many kinds of knowledge and incorporate them into the innovation processes, specifically including traditional knowledge.
- STI policies should encourage the innovation process in traditional, medium, and low technology areas, in order to spread the benefits of improvements in technology across the board.
- STI policies should also balance the development of excellence with active efforts to develop capacity and excellence in new places and among new actors.
- STI policy-makers should develop a broader set of indicators that address the impact of S&T on social cohesion, that identify and/or assess institutional diversity, public engagement in S&T and inclusive processes and their effects; the new approach should also incorporate wider social indicators (such as health, education, environment, inequality, happiness).
- STI policy should encourage transparency in accountability, and employ direct public engagement.
- STI policy should build on broad governance processes and extended public-private partnerships to identify collective needs and create the conditions for the development of collective/public goods.
- The intellectual property system should provide stronger protection for diffusion of innovations that meet basic needs; provide mechanisms that protect the public domain; and incorporate flexibility to adapt systems to different levels of national economic development.

Want to Know More?

Reports are available on the ResIST website (www.resist-research.net). These include:

- Susan E. Cozzens (TPAC, Georgia Tech., USA), Egil Kallerud (NIFU-STEP, Norway), Louise Ackers & Bryony Gill (U. of Leeds, UK), Tiago Santos Pereira (CES, U. of Coimbra, Portugal) *(2007) Science, Technology and Inequalities in the Global Knowledge Economy: Policy Dimensions. Preliminary Position Paper.* http://www.resist-research.net/cms/site/docs/WP1-Preliminary%20position%20paper_Del_1_Final_09-11-06.pdf
- Susan E. Cozzens (TPAC, Georgia Tech., USA), Egil Kallerud (NIFU-STEP, Norway), Louise Ackers & Bryony Gill (U. of Leeds, UK), Jennifer Harper (U. of Malta), Tiago Santos Pereira (CES, U. of Coimbra, Portugal), Noel Zarb-Adami (U. of Malta), (2008)*Problems of Inequality in Science, Technology and Innovation Policy.* http://www.resist-research.net/cms/site/docs/WP1-2_final.pdf
- Susan Cozzens (TPAC, Georgia Tech., USA), Rob Hagendijk, (University of Amsterdam, The Netherlands), Peter Healey (Institute for Science, Innovation and Society, University of Oxford, UK), Tiago Santos Pereira (CES, Coimbra University, Portugal), (2008) 'The CARE Cycle: A Framework for Analyzing Science, Technology and Inequalities'. Journal article submission. http://www.resist-research.net/cms/site/docs/CARE%20Cycle%20May%2013%2008%20final.pdf