Karlsruhe Institute of Technology

A second wave of Technology Assessment? Comparative findings from Europe

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Agenda

- Development of TA since the 1980s
- Research context
- Cross-European findings of establishing (P)TA
- Conclusions
- Next steps

1. Development of TA since the 1980s

- Historical context of the 1970s/ 1980s
  - Science and Technology development as topic of political regulation
    - “technology was increasingly seen as the driving force to help the Western economy out of its depression”
    - Global competition: Technology development in industry
  - Fast technological change
    - Genetic engineering, telecommunication
    - Environmental catastrophes (Bhopal, Chernobyl, acid rain, ozone hole,…)
    - Public health (radiation, groundwater pollution, food safety)
  - The role of the public
    - Public concerns: environmental pollution, nuclear energy and -weapons, DNA research, computerization….
    - New forms of protests (new social movements), citizen initiatives, wish for participation in technology politics
    - Public fears → technology and human needs are incompatible
    - Low level of trust in science and experts, low level of acceptance
  - Science system: Development of problem-oriented research
  - Parliaments and government: need for informed decisions

1. Development of TA since the 1980s

- Since the 1980s/1990s
  - Change of the societal role of technology
    - Not only negative consequences of technology
    - Social, economic, ecological potentials of scientific-technological development: “awareness of options technology offers to its users”
  - Also new approaches of TA: From the early warning function to…
    - New concepts: constructive, participatory TA
    - Further approaches, foresight, social sciences, science in society, STS

2. Research context – PACITA project

- Exploratory research with a practical intent: “Expanding the TA landscape in Europe”; Parallel activities in 7 countries (02 – 09/2012)
  - Methods: “Action research”-like activities: interviews, 2 national workshops, international comparative workshop with external experts
  - Aim: Barriers, opportunities, challenges for establishing TA, exploring existing TA structures in Non-PTA countries
  - Practical intent: Inducing networking activities & establishing a national TA community and TA capacities for policy advice

… Wallonia…

… Portugal…

… Hungary…

… Bulgaria…

… Czech Republic…

…Ireland…

3. Cross-European findings of establishing (P)TA

- R&D structures
  - Modernizing the R&D system: Economy first
    - Reform of R&D policy making and structures + discontinuity and deficient management of reform strategies
    - Lack of cooperation and split of competences
    - Lack of capacities and transparency
    - Innovation as major topic of science politics
  - New roles of the academies of sciences
  - Weak role of the parliament

3. Cross-European findings of establishing (P)TA

- Characteristics of national debates on S&T
  - Relying on expert's opinions
  - No "systemic integration of the public" (exception IE, WA)
  - Strong local initiatives, different Western/ Eastern traditions of citizen participation
  - Topics
    - Environment and health (GMOs, Waste management, Energy)
    - Science and evaluation system (BG, CZ, HU, LT)

- The role of science
  - CZ, HU experiences with TA-like activities in the academies (sustainability, foresight)
  - Overall in Central/Eastern Europe: rather few experiences with problem oriented research
  - IE, WA, PT – active scientific actors

3. Cross-European findings of establishing (P)TA

- Role of science-based policy advice → different national requirements
  - Lack of trust and legitimacy, low transparency, low involvement of the public (BG, PT)
  - Strategic planning of science, technology and innovation with TA instruments (CZ, HU, LT)
  - Assessment of controversial technologies (by governmental bodies, expressed need for more public participation in controversial questions) (IE, WA)

3. Cross-European findings of establishing (P)TA

Different paths approaching possible national TA infrastructures

1. **Supporters of the parliament (WA, IE, PT)**
   - Parliamentary interest in TA
     - Strong academic traditions of TA
     - WA: Parliamentary decree, ongoing debates
     - IE: Strengthen the role of the parliament
     - PT: Further development of the country

2. **Innovative explorers (BG, LT)**
   - Network model
     - Very first experiences with TA → TA as “unrecognized need”
     - Bringing national expertise together
     - Lack of scientific traditions & trained personnel
     - NGO background

3. **Institutional traditionalists (CZ, HU)**
   - TA at governmental level
     - Monitoring and evaluation of S&T
     - “Strong system barriers”
     - Already academic experiences with TA
     - Lack of interest from decision makers and the public expected

4. Conclusions – A second wave of TA?

- Science system
  - In restructuring → competitive funding, dependence on EU-money
  - Weak development of problem-oriented research

- Science and Technology policy
  - Centralized and often intransparent
  - Oriented on “innovation”
  - Weak role of the parliaments
  - In case for advice: experts

- Public debates
  - S&T is controversially debated on the local level
  - Few experiences with participatory approaches

4. Conclusions – A second wave of TA?

- Still need for knowledge based S&T policy making
  - Lack of transparent democratic decision-making structures in S&T

- (New) functions for TA
  - Economic function → TA for the identification/evaluation of national innovation strategies/ R&D programs

- (New) models for TA
  - Still: Parliament
  - Network model
  - Governmental level

→ “TA as empty signifier”(Rip)?

5. Next steps

- Action research activities: what was achieved?
  - (**P**)TA - discussions
  - National workshops: discussions on TA and the “translation” of the concept, national needs for science-based policy advice
  - Support of existing TA activities (WA, PT), setting up new networks (BG, LT)
  - Ongoing debates in WA

- What should be next?
  - National level
    - Prototype-activities, actor based approaches
  - International level
    - Joint projects, international TA network

- Further questions
  - Role of the political culture, role of democratic development of political systems for a “TA- habitat”,…
  - Assessing the role of the EU (Financially supported import of concepts vs. bottom up procedures)?

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Thanks for your attention!

1. Development of TA since the 1980s

- Implementation of TA as a change in the Science, technology and innovation policy making system
- Three more or less integrated policy fields

- Motivated by the US - OTA model
- Institutionalization of Parliamentary TA in Europe (1980s)
  - France (OPECST) 1983
  - Denmark (Teknologieradet) 1986
  - Netherlands (Rathenau Institut) 1986
  - European Union (STOA) 1987
  - UK (POST) 1989
  - Germany (TAB) 1989

- "…the political motivations for adopting technology assessment varied considerably across nations" → institutional and cultural factors (Vig/ Paschen 2000: 17)