

UNCTAD-MoTS Technology Assessment National Validation Workshop in Zambia

Dr Miltos Ladikas
Institute of Technology Assessment and Systems Analysis,
Karlsruhe Institute of Technology, Germany

13 - 16 February 2024, Lusaka, Hotel Radisson Blu

TA: Brief History

- ▶ Early TA related activities in government ministries, research institutes and universities but no official institute

- ▶ **1972:** founding of US Congress' Office of Technology Assessment
 - Main focus:
 - "early-warning" system
 - policy options

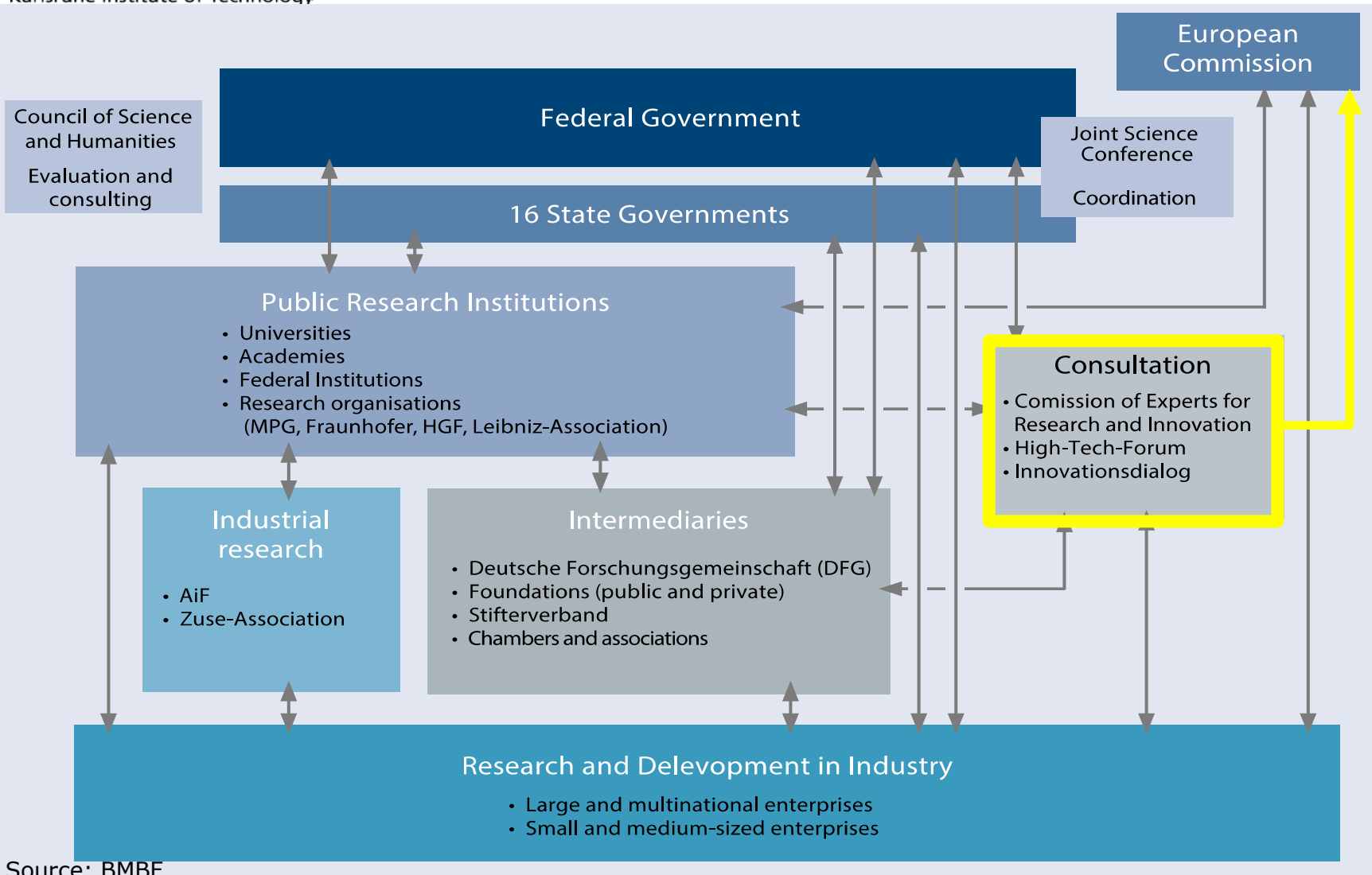
Government TA in Europe

- ▶ science-related debates
- ▶ first proposal for parliamentary TA in 1973 (Germany)
- ▶ first European office founded a decade later in France

Name/Country	Year est.
OPECST, France	1983
Rathenau Institute (The Netherlands)	1986
DBT, Denmark	1986
STOA, European Union	1987
TAB, Germany	1989
POST, UK	1989

Overall TA Landscape in Europe

Country	Number of TA-Institutes
Belgium	9
Denmark	9
Germany	245
Finland	6
France	10
Greece	1
UK	28
Ireland	1
Israel	1
Italy	1
Netherlands	29
Norway	5
Austria	24
Sweden	7
Switzerland	15
Czech Republic	3
Hungary	8
Total:	402



Impact Influencing Factors

- Institutional setting
 - Parliamentary vs. non-parliamentary
 - Reactive vs. proactive
 - Institutional image
- Technology policy-making culture
 - Organised interests
 - Public awareness / level of social debate
 - Cultural aspects

Institutional Setting

Parliamentary setting

- Strictly adhering to the needs of the parliament (e.g. POST, TAB, OPECST, STOA), or,
- More general role in promoting public debates and act as bridge builder (e.g. TA-Swiss, RATHENAU)
- Main audience is the policymaking community
- Reports fully incorporated; institutions are financially stable

Institutional Setting

Non-parliamentary setting

- More independent institutional arrangements
- Non-specific target audience
- Flexibility/self determination in working manner, study timing and result presentation
- Report incorporation uncertain; vulnerable to budgetary cuts

Institutional Setting

Reactive setting

- Depends on external factors in the choice of studies, time allocation and process (e.g. TAB, OPECST)
- Work is request-led (e.g. by a Parliamentary committee)
- Little self-flexibility in choice of subjects
- High policy relevance; uncertain societal value

Institutional Setting

Proactive Setting

- Institution decides study program through own internal procedures (e.g. Rathenau, Norwegian Board)
- Medium to long term studies
- High methodological flexibility
- High societal value; uncertain policy penetration

Institutional Image vis-à-vis Methodology

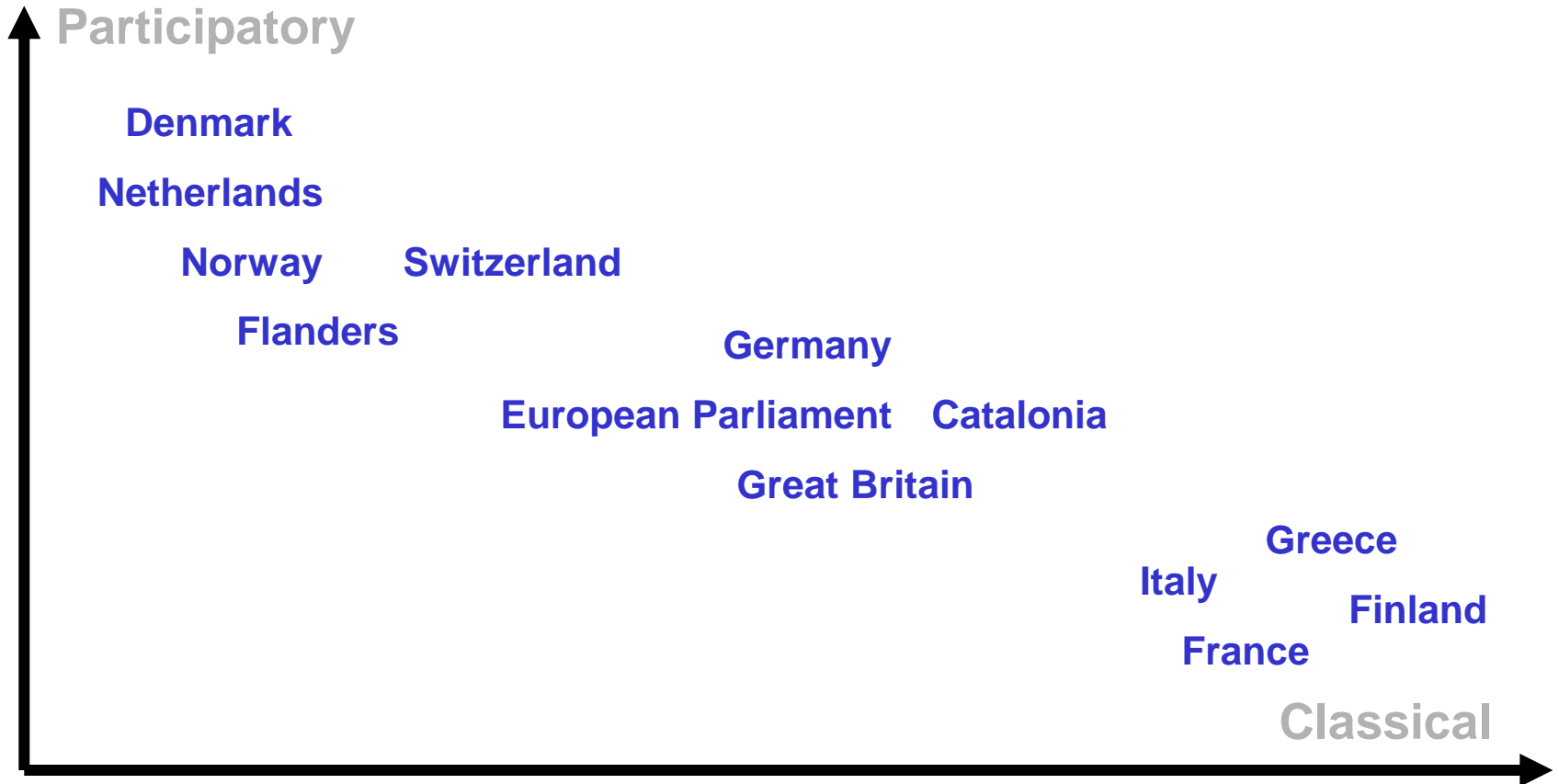
Classical TA

- ▶ Expert orientated / focus on technical aspects
- ▶ Attempt to “rationalise” debate (threat diffusion)
- ▶ One-way relationship between TA and public

Participatory TA

- ▶ Non-expert / public inclusion
- ▶ Focus also on “values”
- ▶ Attempt to create “sustainable” debate
- ▶ Variety of experimental models

TA Institutional Image



Varieties of European TA

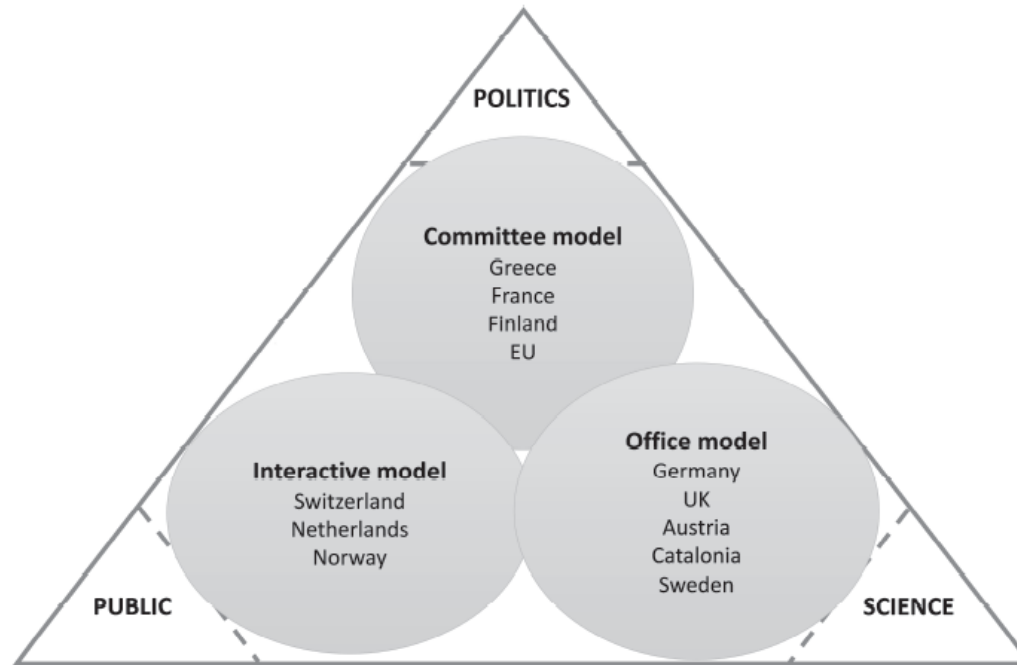


Figure 1: The intermediate role of parliamentary TA in Europe (adopted from Hennen & Ladikas 2009)

- European Parliamentary TA (EPTA): network of partners that advise parliament on the possible social, economic and environmental impact of new sciences and technologies

TA Impact Assessment

- New undertaking
- Requires common understanding of relevant issues (definitions, roles, objectives)
- Cannot be easily standardised

TA Impact Definition

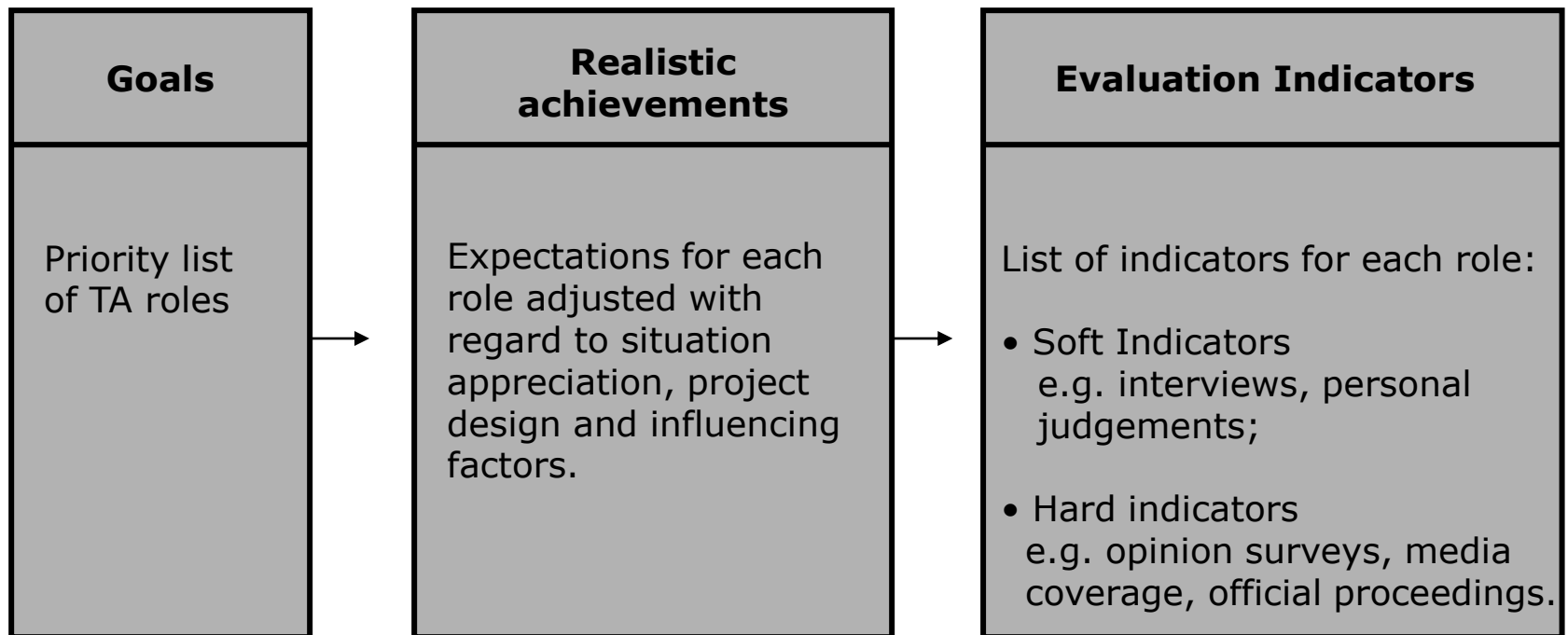
“Impact of TA is defined as any change with regard to the state of knowledge, opinions held and actions taken by relevant actors in the process of societal debate on technological issues.”

“Impact” vs. “Success” vs. “Resonance”

Roles of TA:

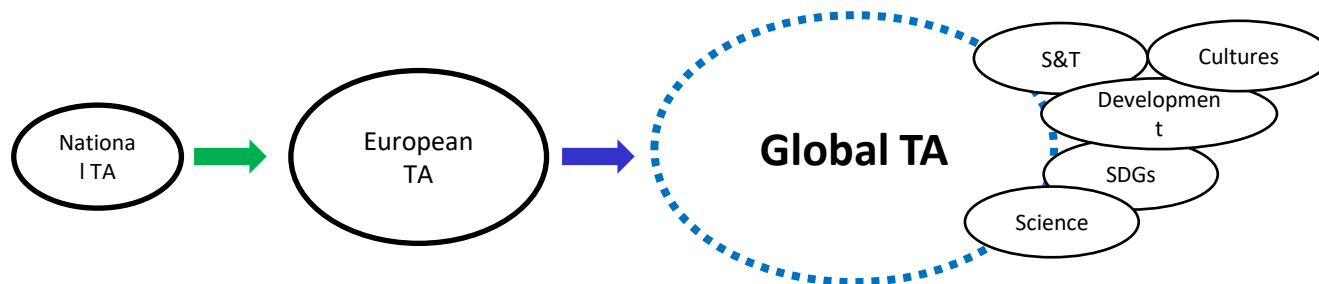
IMPACT DIMENSION	I. RAISING KNOWLEDGE	II. FORMING ATTITUDES / OPINIONS	III. INITIALISING ACTIONS
ISSUE DIMENSION			
TECHNOLOGICAL / SCIENTIFIC ASPECTS	SCIENTIFIC ASSESSMENT a) Technical options assessed and made visible b) Comprehensive overview on consequences given	AGENDA SETTING f) Setting the agenda in the political debate g) Stimulating public debate h) Introducing visions or scenarios	REFRAMING OF DEBATE o) New action plan or initiative to further scrutinise the problem decided p) New orientation in policies established
SOCIETAL ASPECTS	SOCIAL MAPPING c) Structure of conflicts made transparent	MEDIATION i) Self-reflecting among actors j) Blockade running k) Bridge building	NEW DECISION MAKING PROCESSES q) New ways of governance introduced r) Initiative to intensify public debate taken
POLICY ASPECTS	POLICY ANALYSIS d) Policy objectives explored e) Existing policies assessed	RE-STRUCTURING THE POLICY DEBATE l) Comprehensiveness in policies increased m) Policies evaluated through debate n) Democratic legitimisation perceived	DECISION TAKEN s) Policy alternatives filtered t) Innovations implemented u) New legislation is passed

Impact Evaluation Process



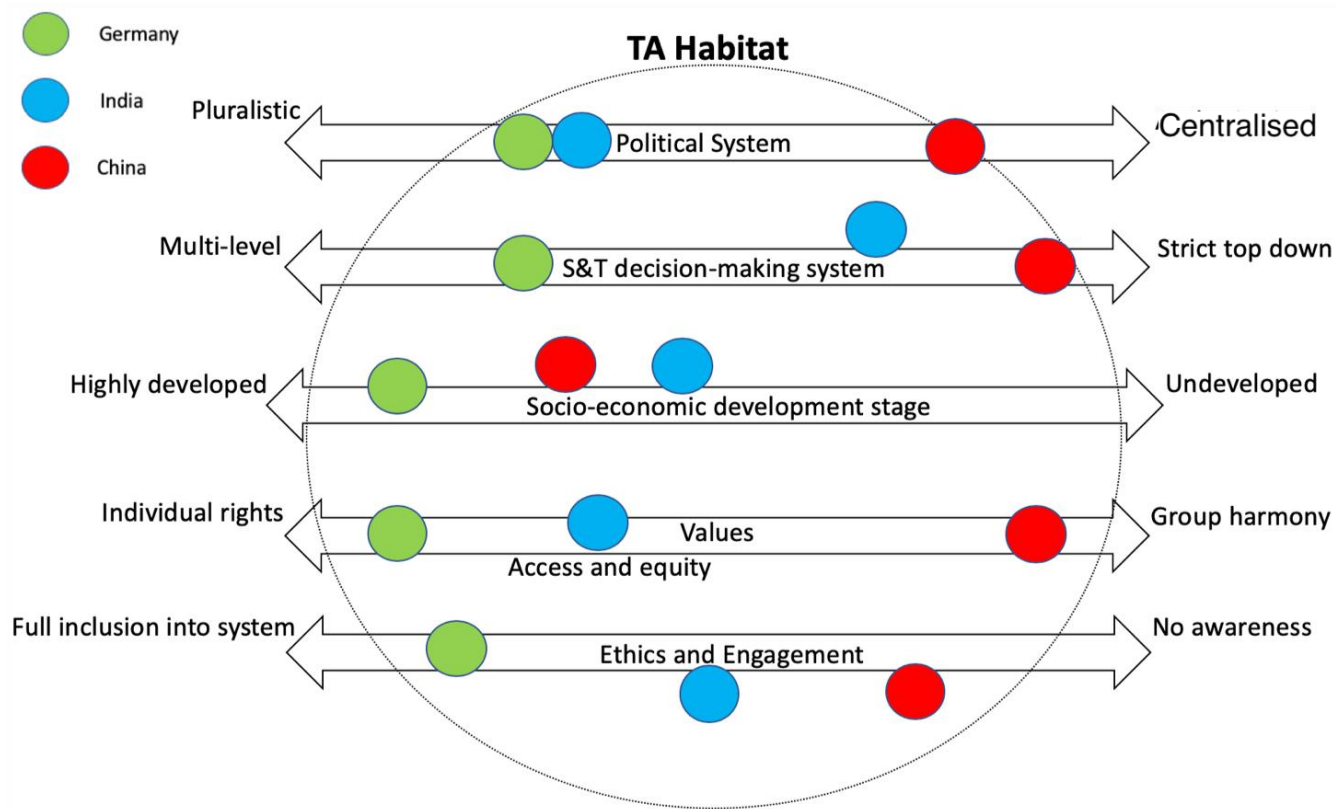
Technology Assessment - Going Global

- Global, world-wide, simultaneous effects of S&T and interconnectedness across countries/cultures
- “real world” challenges requiring common orientation and problem-solving capacities

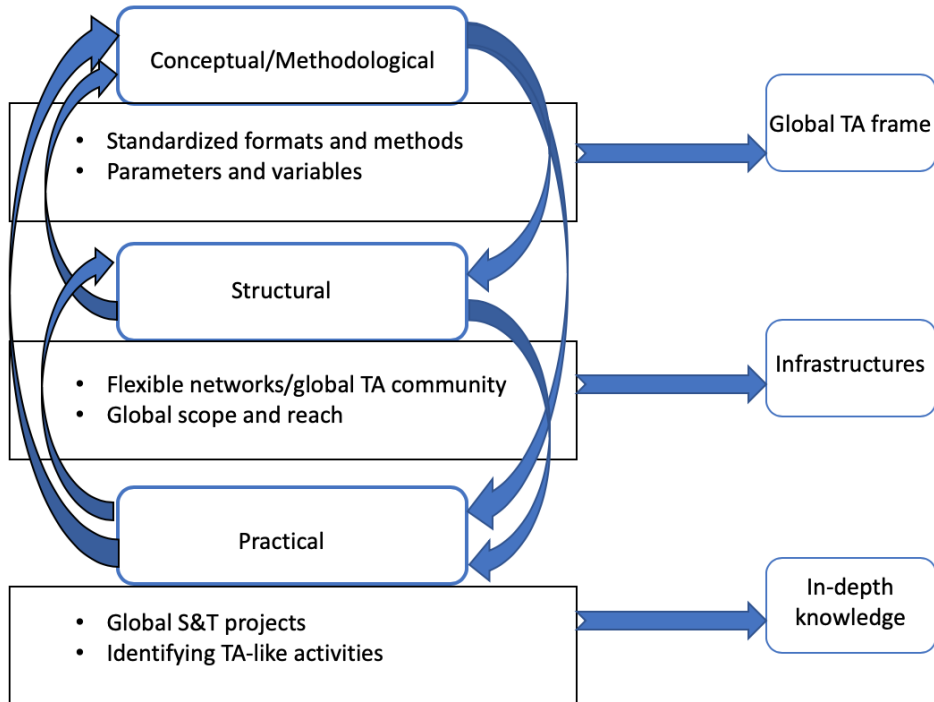


- Going beyond the national level while reflecting on possibilities and limitations
- Need for transnational, networked, flexible approaches
- Need for global concepts, methodologies, structures

Parameters of Global TA



Ways Forward for Global TA

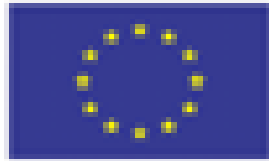


- Create projects for developing **standardized formats and methods** of TA (methodological)
- Develop **parameters** and their variables for a global TA framework (conceptual)
- Enable structures for networked, flexible TA activities on a global level (structural): **UNCSTD**
- Conduct global TA projects on **specific technologies** with worldwide effects (practical)
- Enhance in-depth knowledge on **specific TA(-like) activities** in other countries (practical)



In Summary

- Institutional setting is key impact influencing factor
- Impact encompasses wide assessment parameters
- Impact relates to the specific report aims
- TA at global level requires new thinking



Thank You!