Separated Connectedness: Institutional anchoring of networks aimed at stimulating economic development and innovation

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Prof Peter Maassen, University of Oslo
„Policies and laws, like sausages, cease to inspire respect in proportion as we know how they are made“

„Politics concerns the understanding of the possible“
International/global context of current debates on Higher Education (HE) & Development

1980s: emergence of globalization

Trust in HE"s capacity to contribute to development (pact)


«The University is, together with the Church, the most time-honoured of all present-day macro-societal institutions. Yet arguably it is also the most innovative. It is the source of our ever-growing technical mastery of nature and of the meaning we attribute to that mastery. Bits and pieces of university-based knowledge constantly trickle into the daily discourse of society, provide information and ammunition for public debates, and, more fundamentally but also more inadvertedly, for basic reconceptualisations of social order.»
International/global policy context of current debates on HE & Development (cont.)

1990s: Emergence of „Knowledge society/economy“

➢ Growing acknowledgement of role of HE in development, i.e. economic growth, job creation, and innovation

➢ Belief in New Economy, based on ICT

➢ New scholarly models for interpreting AND stimulating economic development, incl.:
   1) Mode 1 – Mode 2
   2) Pasteur’s Quadrant
   3) Triple Helix

➢ Overall emphasis in models and national development policies on networks instead of institutions
International/global context of current debates on HE & Development (cont.)

2000s: More and more direct coupling in national policies of HE and economic development & innovation (Instrumental vision)

Basic assumption: HE Reform Needed

For example:
“After remaining a comparatively isolated universe for a very long period, both in relation to society and to the rest of the world, with funding guaranteed and a status protected by respect for their autonomy, European universities have gone through the second half of the 20th century without really calling into question the role or nature of what they should be contributing to society. The changes they are undergoing today and which have intensified over the past ten years prompt the fundamental question: Can the European universities, as they are and are organized now, hope in the future to retain their place in society and in the world?” (European Commission 2003: 22)
International/global context of current debates on HE & Development (cont.)

2000s (cont.)

New World Order & Financial Crisis

Models of 1990s basis for national development strategies

Basic assumption: traditional institutional borders (between inst spheres) barriers for economic growth. Need to integrate state, universities and business

Research, Development & Innovation models depicting Tumbling Ivory Towers and Flourishing Economies
Traditional Development Model: Separate institutional spheres
Triple Helix Model of Innovation: Converging institutional spheres
Emergence of Knowledge Economy

Basic Principle:
Knowledge is a Global Public Good
Main political challenge of early 21st Century:

How to stimulate socio-economic development?

Central: Linking Production, Handling and Application of Knowledge Effectively to Public and Private Production Processes and Professional Practices

Consequence: Growing Focus on Higher Education (HE) as Core Knowledge Institution
How to stimulate innovation?

- Private sector (SMEs)
- Private sector (Large/Multinational companies)
- Public sector
Policy Transformation of HE:

From Being Regarded as a Relatively Autonomous, Self-governing Institution to Being Casted into the Role of a Development Instrument

HE Politically More Important, but Less Special

Assumption: If investments in knowledge-based socio-economic development policies, programmes and projects is growing, knowledge on HE should become more important
Trend

Growing Demand for and Interest in Strengthening Knowledge Basis with respect to HE and its role in development

Need for Focused Research and Education & Training Programmes in the area of Higher Education Studies
HERANA project:
aimed at producing a knowledge basis on HE in Africa

Analytical Framework:

Three inter-related factors of importance for understanding relationship HE – Development

- The nature of the **pact** between the universities, political authorities and society at large.

- The nature, size and continuity of the university’s **academic core**.

- The nature, management, size and institutionalisation of **externally-funded projects** at universities.
Pact on HE: Main Actors and Relationships

Politics/State/Bureaucracy
(Ministries, Government, Parliament, Party)

HE Institutions
(leadership & administration; academic staff, students)

THE PACT
Notions of development
Visions on role and value of higher education

External agencies
(foreign donors, academic networks, research councils, industry, government agencies)
Externally funded projects
Lifelong learning, technology transfers, contract/applied research, special projects, etc.

Coupling (tight/loose)

‘Third-mission’ of socio-economic development

Academic Core of Higher Education Institutions (HEIs)
Degree programmes
Basic research

Academic Core and Development
Conditional Relationships:

1. **Strength of Pact** HE – Society determines effectiveness of contribution of University to Development

2. **Academic Core** of HEIs forms foundation for nature of contribution of HE to Development

3. **Externally Funded Projects** form a central link between HE and Development: they can be expected to be development drivers, but should also strengthen the academic core of HEIs
Governmental Research & Development Strategies for stimulating Socio-Economic Development

Examples:

- European Union
- Norway
- Finland
European Union:

Three main pillars for the EU’s Horizon 2020 – The Framework Programme for Research and Innovation, to span the period from 2014 to 2020. (Budget €80 billion)

1. Societal Grand Challenges
2. Science Excellence
3. Industrial leadership
Knowledge Triangle

Innovation/Business

Education

Research
Research addressing Grand Societal Challenges

- Global warming
- Tightening supplies of energy, water and food
- Multicultural society
- Socio-economic exclusion
- Financial/economic crisis
- Demographic developments ("Ageing societies" vs "youth surplus")
- Public health
- Pandemics
- Security

Budget: between €40 - 50 billion

Higher Education as transversal problem solver!
Excellent Science

European Research Council (ERC) to stimulate Frontier Research (mainly at Universities)

Budget: €15 billion

Assumption: around 50 European Flagship universities will receive between 60 & 80% of funding
Industrial Leadership and Innovation

Aimed at funding activities to support leadership in enabling and industrial technologies. Key enabling technologies (KET), defined as micro- and nanoelectronics, photonics, nanotechnology, biotechnology, advanced materials and advanced manufacturing, are a major component.

Budget: €18 billion

Assumption: Public-Private Partnerships (PPPs) in existing and emerging industries and sectors will be crucial for stimulating innovation in Europe
Norway

Interest in relationship between HE and SMEs

Aim: create conditions for establishment of „rapidly growing companies”
Rationale: in OECD most new jobs created in these new companies, and not in multinationals

Norwegian study
Assumption of national R&D and Innovation policy: „rapidly growing companies“ are R&D intensive and innovative; and have an important R&D connection to HEIs for realizing their innovation needs

Outcome
- 97%: no investments in R&D
- 10%: R&D driven technological innovation is important
- Nearly All: new knowledge developed with external actors of which only 3 – 7% HEIs
Norway

Core innovation link between „rapidly growing companies“ and HEIs through students/new employees, not through R&D, patents, etc.
Finland

„Innovation role model in Europe“

Publicly governed and funded innovation system based on Triple Helix model

Recent argumentation: Finland has to move beyond Triple Helix:

- Hardly any new entrepreneurs
- SME's create too few new jobs
- Aalto University (Finland's version of the Apple approach) does not produce frontier research at level expected
  Etc.
Evaluation of RDI activities of Finland’s Polytechnic sector

Focus on:

1. Funding
2. Integration of Education and RDI
3. Human Resources Management inside Polytechnics
4. International dimension of RDI
5. Interaction with business and public sector
6. Indicators for RDI
New Finnish HE and Development Strategy

Each ‘institutional sphere’ (State, HE, Private Sector) specific role in line with strengths, traditions, and mission

Higher Education:
Limited number of universities: basic research
Regional universities and polytechnics: bridging function mainly through students (adequate competences and skills)

Role of State: regulator and funder
Role of Private Sector (SMEs): R&D-driven innovation through students and „knowledge cheques“ (€20,000 - €50,000)
Role of Private Sector (Large companies/Multinationals): Developing adequate, balanced partnerships with national and international research universities
Conclusion

1. Assuming that networks should replace institutional spheres is an illusion. Both are important. One of the main elements in governmental HE and Development strategy: Creating effective meeting places for institutional spheres.

2. Assuming the innovation in private sector that leads to new jobs is first and foremost R&D driven is incorrect. HE students/graduates play an important role in innovation: Therefore the focus in education programmes should be on skills and competences necessary in knowledge intensive environments in private (and public) sector.
Conclusion (cont.)

3. Starting-point for National HE and Development Strategy: National context and (grand) challenges differ from country to country, but the basic model for stimulating an effective relationship between HE and socio-economic development has the same components anywhere.
Separated connectedness
1. To identify the specific challenges to address
2. To determine the role of all actors involved (incl HE);
3. To develop a monitoring and evaluation system that allows for learning and adaptations;
4. To provide adequate funding & incentive schemes and supportive regulatory frameworks for meeting places.

1. To educate and train knowledge workers
2. To produce relevant knowledge (grand challenges)
3. To provide expertise on knowledge economy
4. To produce frontier knowledge (science excellence)

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Separate but connected roles/tasks of institutional spheres
Issues to address in HE Reform

1. Institutional and programme diversity (incl. Private HEIs)

2. Funding and Costs of HE

3. Institutional leadership/management vs academic leadership

4. Educational provision (Online learning opportunities)

5. Growing focus on learning outcomes

6. Access and student selection

7. Frontier research capacity (Opportunities for excellent science)

8. International/global connectedness
Thank you very much for your attention!