Cluster Policies for Local Economic Development in Germany: An Overview and Research Agenda

Matthias Kiese
Institute of Economic and Cultural Geography
http://www.geog.uni-hannover.de/wigeo

Outline

1. Cluster Policy as a Conceptual Challenge
2. Cluster Policies & Multi-level Governance: The German Experience
3. Towards a Research Agenda
What is a Cluster?

Cluster = A concentration of ‘interdependent’ firms within the same or adjacent industrial sectors in a small geographical area (European Commission 2002: 14)

Clusters = geographical concentrations of
- interconnected companies
- specialized suppliers
- service providers
- firms in related industries
- associated institutions (e.g. universities, standard agencies, trade associations) in particular fields that compete but also cooperate (Porter 1998: 197 f.)

The Cluster as a Localized Value System

Customers
Manufacturer
Intermediate goods
Suppliers

Vertical Dimension
(Value Chain)

Institutional Dimension
- Values, Norms and Rules

Horizontal Dimension

Lateral/diagonal Dimension
- Business Services: KIBS, Financial Services (Banks, VC...)
- Research & Education ⇒ specialized labor
- Chambers, associations
- Network organizations
- Specialized infrastructure

Competitors

Territorial boundary

External Dimension

Communication
- local buzz
- global pipelines

The Cluster Continuum (Enright 2003: 104)

- **Working clusters**: critical mass of local knowledge, expertise, personnel, and resources ⇒ agglomeration economies ⇒ firm competitiveness
- **Latent clusters**: critical mass of firms in related industries, but level of interaction and information flows insufficient for benefiting from agglomeration economies
- **Potential clusters**: some elements of working clusters, but too narrow and shallow to reap full benefits
- **Policy driven clusters**: chosen by governments for support but lacking a critical mass of firms or favorable conditions for organic development
- **“Wishful thinking” clusters**: as above, but without critical mass or any particular source of advantage for organic development

narrow technical methodology ⇒ flexible mode of inquiry (Feser/Luger 2003)
epistemological ⇒ hermeneutic theorizing (Barnes 2001, Benneworth/Henry 2004)

Cluster = Fuzzy Concept with Scanty Evidence...

<table>
<thead>
<tr>
<th>Cons</th>
<th>Pros</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Competing definitions &amp; perspectives, no grand theory</td>
<td>+ Theory reflecting empirical diversity</td>
</tr>
<tr>
<td>- Hard to tell apart from other territorial innovation models (Moulaert/Sekia 2003)</td>
<td>+ Competition of concepts as a discovery procedure (Hayek 1978)</td>
</tr>
<tr>
<td>- Difficult to measure &amp; manage</td>
<td>+ Allowing for wide applications ⇒ consultants, policymakers</td>
</tr>
<tr>
<td>- Empirics narrative or ambivalent, depending on life cycle</td>
<td></td>
</tr>
</tbody>
</table>

...but no signs of policy distance!

Cluster initiatives worldwide by year of launch

Global Cluster Initiative Survey (GCIS), Sölvell/Lindqvist/Ketels 2003: 34

Cluster Salesmen: What Consultants Make Believe

„Germany needs a new spatial logic as the development of new globally attractive clusters is neither alchemy nor chance.“¹

„Silicon Valley is everywhere.“²

„Do-it-yourself Silicon Valley“³

„A plan for German job creation“⁴

“the art of leading a region like a firm“⁵

¹ Jung/Kluge 2006 (translated)
² Stein/Stuchtey 2003 (translated)
³ Dodt/Stein/Strack 2001
⁴ Heuser/Kraljic/Stuchtey 2001
⁵ Stuchtey 2003 (translated)
### Four Dimensions of Cluster Policy

(Regional) Cluster Policy = efforts of government to develop and support clusters (in a particular region) (Hospers/Beugelsdijk 2002: 382)

- **agency**: public ↔ private (initiation, funding)
  - implicit ↔ explicit

- **cluster reference**: specialized agglomeration ↔ "cluster"

- **complexity**: single ↔ holistic cluster
  - LED toolkit

- **cluster content**: e.g. share of projects targeting clusters
  - low ↔ high

---

1) cf. Fromhold-Eisebith/Eisebith 2005: 1256

---

### Cluster Policies in Germany: Multi-level Governance

- **Supranational/EU** ⇒ Lisbon Targets ??
  - new goal ‘regional competitiveness and employment’ for 2007-2013
  - structural funds for cluster promotion outside lagging regions?!

- **Federal government**
  - regionalization of innovation policy since 1995: BioRegio, InnoRegio, ProInno, EXIST, kompetenznetze.de
  - Constitution calls for ‘equivalent living conditions’ in all regions
  - Council of Economic Advisors skeptical about performance of ‘growth cores’ in East Germany
  ⇒ regional network but no explicit cluster promotion!

- **State governments**

- **Local governments**
State-level Cluster Policies

Federal system ⇒ cluster policies in all 16 states differing by
- economic structure ⇒ cluster potential
- intensity / degree of intervention
- explicit vs. implicit nature
- cluster content and interpretation

Case studies
- Structural change ⇒ NRW
- High-tech ⇒ Bavaria
- ‘grey mass’ ⇒ Lower Saxony

NRW: Cluster Policy for Structural Change

Starting Conditions
- Ruhr conurbation = coal mining & steel legacy
- Distinct political economy: interventionist, strong ties, culture of subsidies, redistribution, spatial equality goal
- Laboratory for regionalized structural policy

‘Fields of Competence’ Policy
- 1997-2001: Reports suggesting 6-7 fields of competence = agglomerations of loosely linked firms and organizations in a specific industry characterized by
  - high potential for interaction
  - research & technology orientation
  - presence of different stages of the value chain ⇒ latent/potential clusters
- Bargaining process ⇒ 12 fields written into Ruhr Growth and Employment Pact ⇒ € 2 bn for 200,000 new jobs, 2001-2006
NRW: Cluster Policy for Structural Change

Ruhr Pact: Fields of Competence
- Energy & power tech
- IT
- Logistics
- New chemicals
- Medical technology & health business
- Micro-systems technology & microelectronics
- New materials incl. steel
- Water & sewage technology
- Mining technology
- Mechanical engineering
- Design
- Leisure & tourism

Summary of Critiques
- Too many fields, political choice
- Poor growth performance, cluster management & monitoring
- Change in state government ⇒ Ruhr Pact abandoned, review of clusters in 2006

MWME-NRW 2006

Bavaria: Cluster Policy in a High-tech Environment

Antecedents: State-level technology & innovation policy
- Offensive Zukunft Bayern (1994): € 2.8 bn for education, research, technology transfer, entrepreneurship promotion and locational marketing

“Cluster Offensive” launched Feb 2006
- Cluster = “organized creative network of industry and science” (Stoiber 2006: 10) to accelerate the commercialization of research output
- 19 state-wide platforms to improve academia-industry interaction, but no sub-state spatial focus
- Start-up funding only (€ 50 m) ⇒ state moderating and giving impulse

Bayerische Staatskanzlei 2005
Bayerisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie 2006
### Bavaria: 19 Clusters Selected for Promotion

**High Tech Clusters**
- Biotechnology
- ICT
- Aerospace
- Medical technology
- Satellite navigation
- Environmental technologies

**Production-oriented Clusters**
- Automotive
- Railway technology
- Chemicals
- Power generation
- Food processing
- Financial services
- Forestry & wood processing
- Logistics
- Media
- Sensors & high-performance electronics

**Generic Technologies**
- Nanotechnology
- New materials
- Mechatronics

---

Bayerisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie 2006

---

### Lower Saxony: A ‘Grey Mass’ Example

**New Structural Policy (2004)**
- *Public Private Partnership (PPP)*
- Ready-to-use business plans subject to controlling
- Inter-municipal cooperation: Value chains do not stop at administrative boundaries. Wherever a value chain extends beyond more than one municipality, their cooperation is a necessary precondition for structural policy measures." (Own translation and emphasis).
- Project Team: Staff from business, public administration, associations and academia for a pre-defined period to work out concepts
- Project Organization in PPP format putting business plans into practice
- Different Levels of Intensity and Commitment: Regional Growth Concept > Growth Cooperation > Growth Project

Niedersächsisches Ministerium für Wirtschaft, Arbeit und Verkehr, 2004
# Phasing of Regional Growth Concepts

<table>
<thead>
<tr>
<th>Phase</th>
<th>Task</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td><strong>Regional Mobilization</strong>: Will and consensus, leadership, project organization, financing, infrastructure</td>
<td>6-24 months</td>
</tr>
<tr>
<td>1</td>
<td><strong>Business Plan (Growth Concept)</strong>: existing initiatives, quantitative targets, industry focus, business plans for projects, planning the project organization</td>
<td>5 months</td>
</tr>
<tr>
<td>2</td>
<td><strong>First Project Cycle</strong>: Founding the project organization, workability, building up staff, starting projects, communication</td>
<td>9-12 months</td>
</tr>
<tr>
<td>3</td>
<td><strong>Growth</strong>: Carrying on initial projects &amp; starting new ones, controlling and adjustment, communication of results</td>
<td>ca. 10 years</td>
</tr>
</tbody>
</table>

Niedersächsisches Ministerium für Wirtschaft, Arbeit und Verkehr, 2004

---

# The Local Level: Zooming into Lower Saxony

![Map of Lower Saxony](image)

**Cartography**: Stephan Pohl

---

Institute of Economic and Cultural Geography
Matthias Kiese
## Lower Saxony’s Local Cluster Policies at a Glance

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Wolfsburg</th>
<th>Hannover</th>
<th>W'bergland</th>
<th>Süderelbe</th>
<th>Braunschweig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch of Co.</td>
<td>07/1999</td>
<td>04/2003</td>
<td>03/2004</td>
<td>01/2005</td>
<td>02/2005</td>
</tr>
<tr>
<td>Initiative</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>County/Town</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>State</td>
<td>•</td>
<td></td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Large firms</td>
<td>•</td>
<td></td>
<td></td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>County/Town</th>
<th>Large firms</th>
<th>SMEs</th>
<th>Unions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiative</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

### Industry focus

- **Automotive**
- **ICT**
- **Leisure, Tourism**
- **Mech. Engineering**
- **Health services**
- **Optical technologies**
- **Life Sciences**
- **Manufacturing technology**
- **Construction**
- **Logistics**
- **Aerospace**
- **Chemicals**
- **Food processing**
- **Maritime industries**
- **Financial services**
- **Environmental technology**

#### Cluster content

1) Relation of industry- and technology-specific vs. non-specific projects

### Notes

- Lower Saxony’s Local Cluster Policies at a Glance
- 2006 AAG Annual Meeting March 7-11 2006, Chicago, IL
- Institute of Economic and Cultural Geography
- Matthias Kiese
## State-level Cluster Policies: Summary

<table>
<thead>
<tr>
<th>Type of region</th>
<th>North-Rhine Westphalia</th>
<th>Bavaria</th>
<th>Lower Saxony</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structural policy approach</strong></td>
<td>Interventionist, redistributive, consensual; current review</td>
<td>Active technology &amp; innovation policy</td>
<td>Business-plan style Regional Growth Concepts (McKinsey)</td>
</tr>
<tr>
<td><strong>Cluster understanding</strong></td>
<td>Fields of competence as latent/potential clusters</td>
<td>Networks of industry &amp; science to speed up technology transfer</td>
<td>Implicit except value chains</td>
</tr>
</tbody>
</table>

### Research Agenda I - National Dimension

- Move beyond identification & communication of best practice to explain design & implementation
- Acceptance & interpretation of clusters in political sphere
- Role of consultants as catalysts
- Relationship between
  - cluster theory
  - methods of cluster identification & analysis
  - cluster policy
- Political economy of clusters
  - Political vs. economic rationality in industry targeting
  - Bargaining & lobbying processes ⇒ **New Political Economics**
Research Agenda II - International Dimension

• Cluster: universal concept vs. context specificity
  • Industry structure
  • Firm size
  • Governance, role of state, varieties of capitalism (Hall/Soskice 2001)
  • Institutions, e.g. corporate citizenship ⇒ New Institutional Economics

• Learning & diffusion of concept ⇒ convergence & institutional limits (Gertler 2001)

• Multi-scalar approach: national • regional • local
  • Control for e.g. target industries & type of region
    • High-tech
    • old industrial
    • ‘grey mass’ region

Cluster Theory vs. Policy: Mind the Gap!

"It is impossible to resist the conclusion that the policy tail is wagging the analytical dog and wagging it so hard indeed that much of the theory is shaken out."

(Lovering 1999: 390; emphasis added)

⇒ Theory deficit / danger of implicit theories driving consultants and policy-makers (cf. Hofmann 1993)

⇒ Clusters may be fuzzy concepts with scanty evidence, but policy distance applies to cluster research only

⇒ Cluster policy research needed for cluster research to gain political relevance
### References (1/3)

- **Barnes, T., 2001:** Reitherorizing Economic Geography: From the Quantitative Revolution to the ‘Cultural Turn’. In: Annales of the Association of Economic Geographers, 91(3): 546-556.
- **Bayerisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie, 2006:** Bayerische Clusterpolitik. Munich: STIMV.

---

### References (2/3)

<table>
<thead>
<tr>
<th>References (3/3)</th>
</tr>
</thead>
</table>