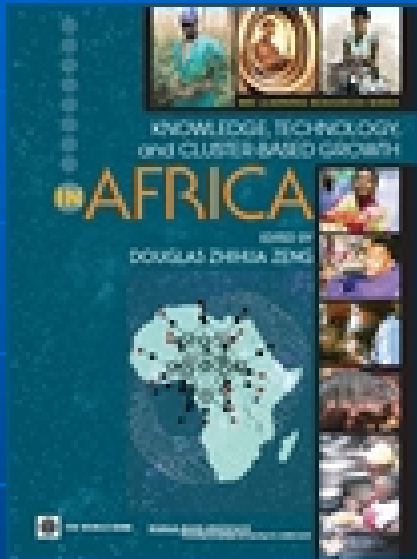


# Cluster Policies: Why, What, and How?

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December 2008



Recent publication: *Knowledge, Technology, and Cluster-based Growth in Africa*, Douglas Zhihua Zeng, 2008, World Bank

# Presentation Structure

- Defining clusters
- Cluster origins/formation
- Why clusters?
- Rationale for cluster policies (why)
- Major cluster policies (what)
- Policy implementation (how)

# What is Cluster?

- Clusters are defined by two key attributes:
  - Geographic and spatial distribution;
  - Economic sector.
- Porter defines a cluster as a group of firms engaged in a similar or related economic activity within the national economy. In most cases these firms are geographically close, while in others they may be more dispersed.
- Schmitz defines a cluster as a geographic AND sectoral agglomeration of enterprises.
- Most of the clusters we talk about fall into the latter definition – both geographic proximity and sectoral specialization.

# Why Clusters?

- Clusters boost innovation through increased competition and cooperation, as well as availability of various talents, interfirm linkages, and knowledge networks.
- Clusters increase productivity and efficiency through business value chains and reduced transaction costs, so as to reduce market failures.
- Clusters improve employment opportunities, and strengthens business and education linkages.
- Clusters stimulate regional entrepreneurship. Opportunities are more transparent, role models more visible, and opportunities – to supply, compete, or complement – more available.
- Clusters aid product specialization by leveraging local comparative advantages (endowments), and improve regional economic sustainability.

# Cluster Origins

- In general, clusters come in two forms:
  - Clusters that originate as spontaneous agglomerations of enterprises and other related actors; (Serendipity)
  - Clusters induced by public policies, or “constructed”. These range from “technopoles” and industrial parks to incubators and export processing zones. (Strategy)
- Most of the clusters we studied belong to the first category.

# Success and Failure of Industrial Clusters

- Not all the clusters have successfully developed. In fact, some clusters have become extinct. Why?
- A key reason: lack of innovation or development momentum:
  - Path-dependency or lock-in effect.
  - Lack of skills and technology support.
  - Decrease in competitive pressures.
  - Self-sufficiency syndrome.

# Why Cluster Policies?

## ■ Market Failure

- Knowledge creation and diffusion
- Inability of markets to initiate or sustain inter-linkages (joint platforms)
- Information asymmetry
- Coordination problems – unwilling to share the gains
- Public infrastructure

## ■ Government/Policy Failure

- Deficiencies in information, institutions and public competencies, as well as vested interests group lead to gov't/policy failures – rationale for corrective measures. E.g., product regulations, standards, judiciary systems.
- Insitutional rigidities, e.g., in public universities/GRIs.

## ■ Systemic Failure

- Mismatch or inconsistency between interrelated institutions, organizations (firms, science system, GRI, entrepreneurs, VC), or playing rules
- Lack of a unifying strategy and comprehensive approach

# Major Cluster Policies

- Framework policies – building a foundation
- Broker policies – building relationships
- Skills policies
- Innovation policies
- Entrepreneurship policies
- Finance policies
- Global policies

# Framework Policies – Building a Foundation

- Macroeconomic stability
- Solid fundamentals: region's educational assets, physical infrastructure, quality of life
- Streamlined regulations – tailored, flexible and responsive. E.g., one-stop shop
- Good institutional framework, including judicial and governance systems
- Well-functioning product markets (goods and services) and factor markets (labor and financial markets)

# Broker Policies – Building Relationships

- Establishment of linkages between firms:
  - creation of platforms for dialogue;
  - encouragement & facilitation of networking, e.g. convening a cluster leadership council & supporting cluster associations;
  - promotion of cluster identity and awareness through public events.
- Strengthening science-industry interplay, e.g.:
  - special reward systems and incentive structures to promote university-industry linkages;
  - intellectual property reforms to encourage business-oriented R&D.
- Mapping cluster competencies to spur awareness of cluster opportunities for firms and individuals

# Do's and Don'ts of A Successful Cluster Organization

Do's	Don'ts
Strong industry leadership	Club-like exclusivity
Staff to organize & manage activities	Compete with existing industry associations
Provide needed services	Measure success in terms of funding
Support for collective Projects	Dominance by public sector
Facilitate networking	Too broad a set of industries

# Skills Policies

- Strengthen the quality of higher education, especially in the cluster region;
- Create cluster hubs at community colleges;
- Foster cluster-focused professional science master's programs at nearby universities;
- Encourage cluster-training consortia: vocational or on-the-job training.

# Innovation Policies

- Invest in cluster-based innovation centers
- Strengthen the university-GRI-industry linkages through encouraging joint research and personnel exchange (e.g., Norway TEFT program)
- Support the regional extension services/productivity centers/MSTQs
- Innovation is not just technology breakthrough, but also improvements in products, services and the process of production and marketing, often the result of new product designs and business models
  - Small grants to support incremental innovations for small firms.

# Business-Academia Personnel Exchange

- UK Business Fellowship program: mainstream academics become business fellows, spend time advising firms on technical & research issues.
- Denmark: tax deduction on collaborative R&D.
- Belgium: First-Enterprise scheme
  - Cover up to 80% of salary for 2 years
  - The researcher engages in a specific project in the firm
  - Criteria: researcher spend enough time in the hosting research institute to allow knowledge transfer; also competent in the relevant research field

# Suggestions for allocating R&D fund

- Require applicants to project expected benefits to cluster and regional economy
- Assist cluster members in identifying and applying for federal grants
- Set aside funds for applications involving three or more partners
- Create a simplified format for mini-grants to small business

# Entrepreneurship Policies

- Support Entrepreneurial Networks, e.g. *iBridge Network* – an e-network
- Support business incubators in clusters (e.g., *Funcion Chile*)
- Organize cluster expertise across small business centers
- Encourage entrepreneurship education programs at high schools and postsecondary institutions

# Finance Policies

- Tax policies for skills training and R&D activities, especially in clusters
- Improving SME access to finance through better and more diversified services and a level-playing field
- Encourage seed and venture capital investments
- Government procurement policies to stimulate cluster growth, but quality standards must be enforced

# Global Policies

- Encourage FDI to strengthen resource base, and access front-edge technologies and skills
- Support cluster participation in international conferences, trade shows and study tours
- Support and assist export through better exports services (logistics, infrastructure) and regulations
- Help to link with global Diasporas.

# Policy Implementation

- Business sector should be the key driver of cluster development
- A systemic approach will be more effective than piecemeal measures
- Strong commitment of government(s) for long-term objectives, and pragmatism (e.g., China)
- High-level coordination across different policy spheres are essential
- Public-private partnership and broad participation can gain broad policy support
- Effective monitoring and evaluation mechanisms must be put in place

**Thank you!**

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