

# CLUSTERS FOR COMPETITIVENESS

A Practical Guide &  
Policy Implications for Developing Cluster Initiatives





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## OVERVIEW

### 1. Context

Determinants of export competitiveness are many and complex...

Development experience from around the world has shown that the determinants of export competitiveness are many and complex. The arguments for investment in physical capital and infrastructure have been long present. Neoclassical economists, then, emphasized getting the macro fundamentals right so resources flow into the right sectors, and within those sectors, the right firms. Further, economists looked at other issues: human and social capital, technological progress and innovation, business enabling environments, firm sophistication and demand conditions, product and market diversification, etc. Academics and practitioners have now generally come to agree that many of these issues are not mutually exclusive but jointly supportive.

The World Bank Group's Export Competitiveness Initiative, which aims to develop synergies among practitioners working on economic growth, trade and private sector development, has underscored several of the above issues. It draws on a myriad of policy tools and approaches already employed in the World Bank Group's work on trade and economic policy, customs and logistics, and direct enterprise support. The policy agenda that typically emerges from a competitiveness analysis relates to three core areas, and collectively they offer a platform on which necessary policy dialogues can be developed:

...one should start with a basic framework.

- *Macro fundamentals* (e.g., economic biases due to tariff and non-tariff trade barriers, real exchange rate misalignment, tax distortions, overall fiscal health of the economy)
- *Hard and soft infrastructure* (e.g., infrastructure, customs and trade logistics, the costs of doing business)
- *Supply-side measures* (e.g., technology creation and adaptation, product standards and certification, export promotion, human resource development)

The cluster-based approach offers a new way of dividing and understanding an economy...

...and complements economy-wide analyses.

This toolkit offers a framework and key instruments on clusters...

The cluster-based approach presented in this report complements such a platform by offering a new way of dividing and understanding an economy and formulating policies and practices. A cluster is a system of interconnection between private and public sector entities. It usually comprises a group of companies, suppliers, service providers, and associated institutions in a particular field, linked by externalities and complementarities. An example would be a country's auto industry, with its manufacturers and all their supporting services, such as parts and equipment suppliers, transportation companies, retail distributors, educational institutions and R&D firms, public relations and advertising agencies, etc.

A cluster approach may be used in addition to the usual economy-wide analyses. Cluster analysis encourages engagement with a diverse group of stakeholders through which they may develop a shared understanding of the underlying public policy issues and act on them jointly. Developing such a joint platform with strong ownership by the public and private sector stakeholders is often crucial in jump starting more comprehensive economic reform processes in developing countries.

A cluster-based approach enables the policy debate and actions to be more strategic and incremental. Understanding the state of clusters within an economy makes it easier to diagnose economic inefficiencies and to specify and prioritize various shortages and impediments to competitiveness and growth. It can focus attention on the unique challenges that may be sector-specific and can address institutional and coordination-related issues to leverage additional benefits of positive spillovers.

## 2. Purpose, target audience, and the structure of the toolkit

*Cluster Initiatives for Export Competitiveness: A Practical Guide and Toolkit* offers a rationale and a practical approach for using cluster analysis to enhance competitiveness in developing countries. While this document is not meant to be exhaustive, it presents a sound concep-

...for policymakers and practitioners working on competitiveness.

tual framework, outlines key instruments that can be used to initiate a cluster-based analyses and dialogues, and offers case studies on good practices and lessons learnt. It does not entail a definitive set of instruments; instead, it intends to contribute to ongoing discussions regarding the use of cluster analysis to promote competitiveness.

The purpose of this toolkit is to assist World Bank and IFC staff when contemplating export competitiveness. It has been written from a non-technical perspective to be as practical as possible. It draws upon a host of analytical and operational documentation available on industrial clusters from around the world. This toolkit should be relevant to a broad audience working on the export competitiveness of developing countries: policy makers, business associations and leaders, and international development agencies.

This document is structured as follows: **Chapter 1** offers an introduction to a cluster-based approach to competitiveness. Chapter 2 outlines 10 core tools used in cluster initiatives, while **Chapter 3** discusses the key stages involved in initiating a cluster analysis, engaging stakeholders, and implementing strategic cluster initiatives. **Chapter 4** discusses public policy implications of a cluster-based approach and is the logical conclusion of the toolkit. A series of **annexes** offers resource materials.



## CHAPTER 1

### A CLUSTER-BASED APPROACH TO COMPETITIVENESS: KEY CONCEPTS

#### 1. What are Industrial Clusters?

An industrial cluster is an agglomeration of companies, suppliers, service providers, and associated institutions in a particular field. Often included are financial providers, educational institutions, and various levels of government. These entities are linked by externalities and complementarities of different types and are usually located near each other. (See Figure 1) Because of their proximity—by geography and activities—cluster constituents enjoy the economic benefits of several location-specific externalities and synergies. Such benefits include access to specialized human resources and suppliers, knowledge spillovers, pressure for higher performance in head-to-head competition, etc. Moreover, through these linkages, one cluster is inevitably linked with others and to the overall economy.

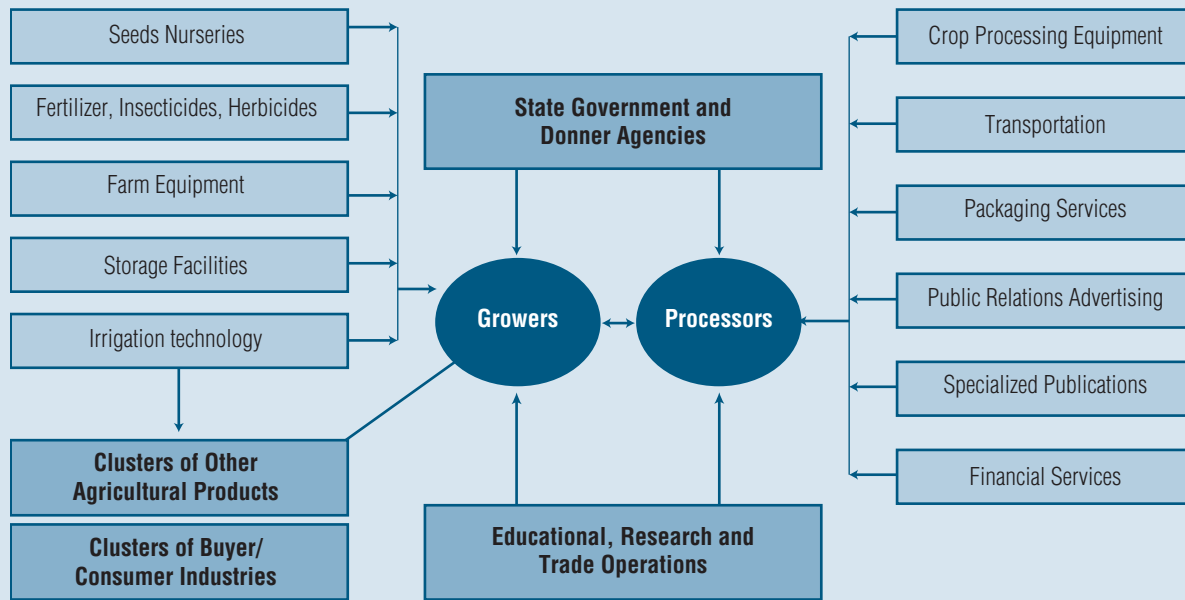
Cluster initiatives can contribute to comprehensive national competitiveness efforts that include policy reform, trade capacity building, a private-public dialogue, regional economic development, workforce development, etc. At times, they become a catalyst, generating broad public understanding and support for the economic reform agenda by working with the media, universities and think tanks, knowledge and technology foundations, industry leaders, government officials, etc. When designed carefully and implemented efficiently, cluster initiatives may well be one of the most effective tools in a broader context of policy reform and other private sector development initiatives.

The concept of economy-wide competitiveness has brought forward the relevance of a cluster approach. Competitiveness is a proxy for the productivity of an economy and depends on the value of a nation's products and services, measured by the prices they command in

Clusters are agglomerations of diverse actors.

They can be catalysts to policy reforms and private sector development...

Figure 1: An Agribusiness Cluster



...through  
exploitations  
of linkages,  
partnerships and  
synergies ...

international markets and the efficiency with which they are produced. However, excellence in productivity is not something firms can acquire in isolation; they need to work with surrounding institutions and agents whose undertakings have large impacts on how firms operate. Industrial clusters can increase productivity and operational efficiency through linkages, spillovers, and synergies across firms and associated institutions and through efficient access to public goods, better coordination, and the diffusion of best practices.

Clusters can contribute to the foundation of knowledge and help stimulate technological innovation, as is seen in the IT clusters in Silicon Valley and Bangalore. They may also spur creative innovation, as in the fashion designing clusters in Paris and Mumbai. Clusters can facilitate commercialization and new business formation through spinoffs

...especially if they are export-oriented.

and startups. One cluster often seeds or enhances other clusters as it disperses activities in the value chain to reduce risk, access cheaper inputs, or better serve particular regional markets. A good example of such a domino effect is the optics cluster in Arizona, which gave rise to clusters in plastics, aerospace, environment technologies, information technologies and biosciences.

Clusters whose activities span regional or national boundaries differ from those that operate within a nation. The McKinsey Global Institute estimates more than 70 per cent of developing country exports are concentrated in six industries: agribusiness, mining, light manufacturing, tourism, information and communications technology, and retail distribution. Clusters based on these industries are emphasized throughout this toolkit, although it will try to differentiate export industry clusters from those serving the local market. A study by the Institute for Strategy and Competitiveness, Harvard Business School, shows that locational patterns of export-oriented clusters are likely to reflect the underlying forces of linkages rather than economic geography. On the other hand, local industries are present at roughly the same density throughout economy, showing they serve local markets and are not exposed to direct competition across regions. They may account for higher employment but lower wages, productivity, and rates of innovation than the economy on average. In contrast, export-oriented clusters are concentrated geographically because industries in this category can choose where to locate and serve markets beyond the border. Such clusters account for relatively smaller employment but register above average wages, productivity, and innovation. (Porter, 2003)

## 2. What are Cluster Initiatives?

A cluster initiative...

Industrial clusters often evolve spontaneously over decades. However, well-designed cluster initiatives can expedite the process and provide a much-needed initial platform on which to grow in output and sophis-

...develops sound business strategies for the clusters...

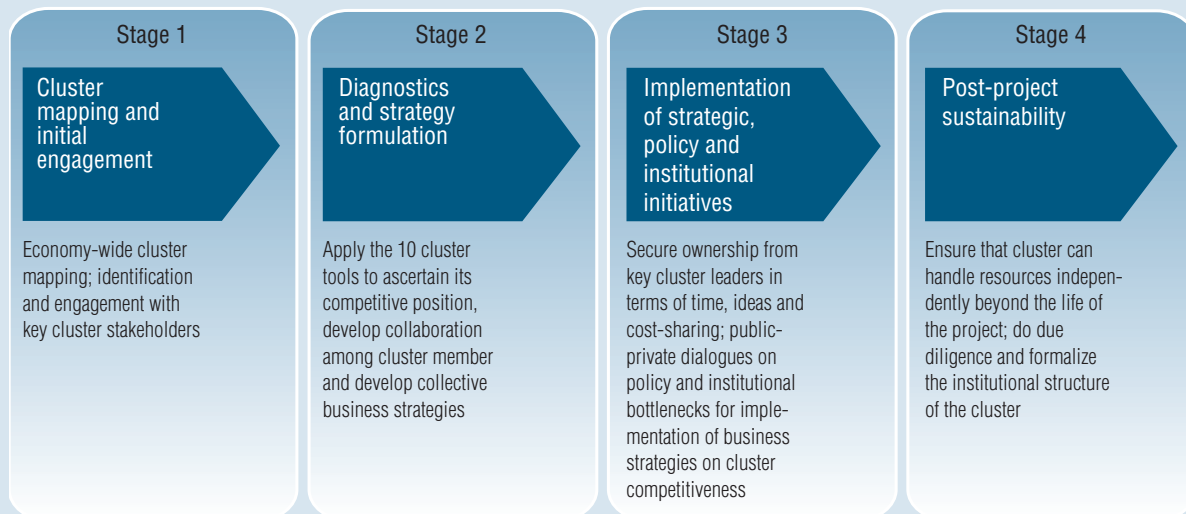
tication. Such initiatives should draw from and feed into the spillovers influencing economic performance within and across clusters.

A cluster initiative offers a comprehensive assessment of a cluster's markets, products, linkages, externalities, and synergies to help identify regulatory and business constraints, tap new and wider market opportunities, and develop sound business strategies to tackle its main competitors. Strategic initiatives vary by country and cluster, but often focus on improving market information, workforce development, supply chain improvements, quality standards, branding, forward integration, and process improvements.

An overview of one approach to developing a cluster initiative is summarized below.

A cluster-based approach is a realistic way to identify the policy and institutional impediments to competitiveness and can be an effective vehicle for catalyzing reform. Through dialogues at the cluster level,

**Figure 2: One Approach to Developing a Cluster Initiative**





...builds effective partnerships with private and public sector organizations...

new partnerships can be forged between cluster leaders and various public sector organizations (e.g., organizations working on industrial development, infrastructure development, research, innovation and training, etc.) that help expedite policy reforms. The growth of a cluster is often the catalyst for complementary development in such areas as: the provision of specialized infrastructure; and additions to the country's technology and knowledge base. It also may result in the foundation and expansion of training and science institutions, and agencies for export promotion, setting standards and regulations, etc. Results can include improved operational efficiency, yielding more and better jobs, higher exports, and above all, better coordination between the public and private sectors on addressing productivity bottlenecks and sustaining market-oriented reforms. Moreover, the benefits spread beyond the cluster through its linkages, externalities, and synergies.

...and enhances government efforts on policy reforms.

Creation of industrial linkages through clusters helps find an effective formulation and sequencing of policy reforms. Thus, a government may pursue cluster initiatives along with policy reform, because together they may create positive externalities by informing it of the policy implications and possible business responses. This improved understanding helps government develop a compelling pitch for policy reform. Without the simultaneous move of a critical mass of industrialists to set up and function as an initial cluster, isolated policy reforms might be difficult, because there will be little feedback on the positive and negative impacts they have had on industries.

Analyses show that a dense network of domestic firms can compensate for potential negative side effects of policy reforms. Where reforms help remove industry biases, a cluster initiative will help firms make full use of the new opportunities. It is also possible that cluster leaders, when provided with appropriate communication channels and prevented from acting as lobbyists for the conservation of policy biases, may be a sounding board through which to understand a policy reform's positive and negative impacts. Above all, clusters may act

Clusters emphasize inter-ministerial or inter-agency collaborations...

...but governments should work with evolving clusters than create new.

as search mechanisms that initiate a process through which public-private partnerships can be gradually fine-tuned to enhance overall productivity.

### 3. What is the role of the public sector?

National economic frameworks and their spatial implications play a role in the development and implementation of policies to promote industrial clusters. Because clusters may range from the local to the national, governments at all levels should be involved. However, central coordination is needed because of the inherent externalities of cluster activities, especially regarding issues such as innovation, knowledge, and supply-chain development. Central level coordinating strategies include inter-ministerial or inter-agency committees that conceptualize, design, and respond jointly to cluster-based policy recommendations. These are necessary for public-private dialogues to be meaningful.

Governments should have a high-profile role in the initial stages, such as guiding the cluster mapping, and in the final stages, such as leading public-private dialogues on policy and institutional bottlenecks that inhibit industry development and the business environment. The government may assume a lower profile during intermediate stages, such as the analysis of firm-level competitiveness and market and product segmentation. However, the government should remain involved, because these analyses will help it understand industry bottlenecks, which can later inform policy and program formulations.

Different government entities may sponsor or co-sponsor a cluster initiative on their own or in partnership with an international aid agency. This includes federal (e.g., the Ministry of Finance and/or the Prime Minister's Office), regional (e.g., the Secretary of Industries), or autonomous agencies (e.g., Competitiveness Funds). When international donor agencies are involved, they may be part of broader technical assistance programs, ideally spanning multiple years. It is important, however, that

an initial exploratory period (of 3–4 months) should be established to understand the linkages among clusters as well as their contributions to the overall economy’s employment, growth, exports, and specialization. This initial exploratory period should also test rigorously whether cluster leaders are sufficiently receptive and committed, because their support for reform will be essential. (See Chapter 4 on the essential stages of cluster initiative formation).

#### **4. How do cluster initiatives compare to other instruments?**

A number of supply-side competitiveness measures deserve mention while discussing cluster initiatives. Countries have long used interventions based on value chains and special economic zones (SEZs). They have also pursued ambitious growth pole projects, and have manipulated industrial policy. Although some of these are related to cluster initiatives and are certainly complementary, cluster projects can be differentiated mainly by their focus on actively engaging both private and public sector stakeholders throughout the process, from cluster selection to strategy formulation and policy implementation. Also, cluster interventions try to exploit informal institutional capital (i.e., trust and cooperation) to help change the mindsets of both public and private sector agents. Economic development programs have run the gamut from micro-level projects for specific enterprises to macro-level interventions targeting national policies and institutions. Cluster competitiveness initiatives fill an important gap—the “missing middle”—between the firm level and that of industry sectors and national institutions.

##### **Clusters and value chains**

A value-chain approach is transaction-oriented and focuses on transactional efficiency within the chain; essentially, it is linear. In contrast, a cluster approach is systemic; it includes an analysis of a cluster’s value chain, has a strategy orientation, and focuses on solving coordination and information failures through better participation of supporting

institutions outside the value chain. While clusters typically are geographically centered, value chains may span multiple geographies.

Value chain projects tend to have a sharper focus on helping specific beneficiaries, usually those stuck in poverty, such as producers in a certain region or farmers who are receiving low prices. Cluster projects tend to involve the entire value chain plus any entity that has the potential to influence the cluster and beyond. Such entities include traders, processors, manufacturers, exporters, training institutes, government standards bureaus, etc. Value-chain analysis is only one of several tools a cluster approach may deploy.

### **Clusters and special economic zones**

SEZs are geographic concentrations of firms. They are created to provide better infrastructure and R&D, and they offer government incentives not found outside the zones. They are often established by direct industrial policy intervention to promote regional economic growth, where state policy offers incentives to attract anchor companies and other firms to the same location. High tech parks, science parks, industrial zones, and export processing zones are examples.

Clusters are much less top down, and there is less emphasis on concentration of physical infrastructure. Supportive institutions and R&D facilities in a cluster evolve gradually to respond to cluster firms' needs. Government's role is more that of a catalyst, providing a productive business environment, and is not restricted to a particular sector. Another point of difference is the nature of geographic concentration. While an industrial zone is usually nested in a city or lies nearby, it is usually smaller in span than a cluster, which can spread over the entire city, province, or region.

### **Clusters and growth poles**

Like clusters, growth poles highlight the importance of location and the economies of agglomeration, but they differ sharply in how growth is achieved. Growth poles became popular among policymakers in

1960s and 1970s, based on theories developed by François Perroux and others. They emphasize attracting firms to a region through tax-incentives, infrastructure development, and other business support facilities. The government acts as a master planner, targeting industries and locations using a wide range of incentives, even in regions far from principal economic centers. Clusters, in turn, use market-based solutions by leveraging existing economic activities in a particular location. The government plays an important but supporting role in a process driven by the private sector. Such a shift of emphasis is crucial to avoid the mistakes of unnatural investments in unnatural locations that fail to catalyze sustainable growth.

### **Clusters and industrial policy**

Cluster initiatives differ fundamentally from industrial policy in both their intellectual foundations and their implications for government policy. Industrial policy is based on a notion of zero-sum international competition in which some industries offer better prospects than others and hence must be protected until they acquire the necessary scale and sophistication to function on their own. Cluster initiatives, in contrast, rest on a more dynamic view of competition among firms and their coordination with associated institutions. A cluster-based model does not seek entry barriers—be they against local or foreign firms; instead, the concept of a cluster stresses the need for the timely and steady opening of the local market to imports, which improves supply chain efficiency, upgrades local demand conditions, and stimulates rivalry, resulting in a positive sum view of competitiveness.



## CHAPTER 2 KEY TOOLS FOR IMPLEMENTATION OF CLUSTER INITIATIVES

There is some confusion over cluster initiative process.

Considerable confusion has arisen about how a cluster-based approach can be applied to export competitiveness strategies of nations. In particular, there are questions about differences between the use of the term cluster to denote an independent conglomeration of firms that have always existed almost everywhere and the use of cluster initiative as a deliberate policy intervention. What types of problems can a cluster initiative address effectively and what are its limitations? How does one go about developing such an initiative systematically and strategically to achieve the most economic efficiency and sustainability? What is its relevance, in terms of bridging the gap that often exists between the private and public sectors, in formulating industrial and economic policies and putting them into practice?

This chapter presents an integrated view of cluster initiatives in undertaking rigorous and consistent analyses to inform decision-making, develop a consensus among key stakeholders around potential opportunities, and formulate a coherent competitiveness strategy.

This toolkit provides an integrated view of cluster initiatives...

The tools presented here are meant to be comprehensive but not exhaustive. It provides an integrated view of how a cluster initiative evolves and matures as a sound public-private collaboration. While earlier of the tools are applied to a larger number of clusters, these tools also act as a filtration process through which less interested and less committed clusters are dropped from the process. The most advanced of the tools are then to be applied only to a select few clusters that demonstrate firm ownership of the cluster initiative. Some countries and industries may not necessarily need the application of all tools listed here while other industries may require the use of other relevant diagnostic tools that are not listed.

...for policymakers,  
industry leaders  
and development  
practitioners.

10 cluster tools—  
some interactive and  
others analytical—  
are discussed here.

These tools will be of interest to policymakers, industry leaders, and development practitioners interested in improving export competitiveness of industrial clusters. On the one hand, cluster-related tools may give policymakers and cluster facilitators an opening into strategic frameworks and firm-level data currently available only with the private sector. On the other hand, they help firms broaden their knowledge of policies and institutions affecting productivities on their immediate shop floors.

Before selecting specific clusters for intervention, specialists should carry out a broader cluster mapping at a national level. In a country, regional economies are specialized with each region exhibiting competitiveness in a different mix of industry clusters. Such geographic diversity can be attributed to various factors, including locational issues, but it is very important that inter-dependencies between regions and between clusters are not ignored. Cluster mapping will help assemble a detailed picture of the location and performance of industries in the entire nation or region with a special focus on the linkages or externalities across industries that give rise to clusters. The broader mapping should form the basis on which individual cluster initiatives are conceived and cluster tools are applied.

Once specific clusters are identified for further engagement, an analysis should begin with the identification of market and product segments in which the concerned cluster is located. Without getting the market segmentation right, one can make grievous errors in applying the remaining tools; the analyses likely will lead to ineffective attempts to improve competitiveness.

The tool on product and market segmentation (Tool 2) is followed by an interactive process through which the key stakeholders—producers and suppliers, service providers, regulators and standards-setters, and distributors—are brought to the table and a common agenda is developed to suit the business interests of many or all (Tools 3 and 4). Once cluster leaders have developed a sense of community and a broad



consensus on the key issues facing them, it is possible to apply more rigorous tools such as Porter's Five Forces (Tool 5), which can be followed up with the analyses of value chains, market trends, and competitiveness positions (Tools 6, 7 & 8). These may be supplemented where necessary with additional industry benchmarking and analyses.

Throughout the implementation stage, a number of tools can help identify and offer guidance on how to engage with public and private institutions for collaboration and how to create value propositions. A rigorous monitoring and evaluation framework should be developed at the outset and followed through the end.

Following are descriptions of tools that can guide and structure cluster analysis.

## Tools to Develop a Cluster-Based Competitiveness Initiative

### Cluster Definition

Tool 1: Cluster Mapping

### Cluster Analysis

Tool 2: Product and Market Segmentation

Tool 3: SWOT (Strengths, Weaknesses, Opportunities, Threats)

Tool 4: GAP Analysis

Tool 5: Porter's Five Forces Analysis

Tool 6: Value Chain Analysis

Tool 7: Market Trends Analysis

Tool 8: Competitive Positioning Analysis

### Assessing Institutional Support

Tool 9: Old and New Institutions for Collaboration

### Controlling the Process

Tool 10: Monitoring and Evaluation

## Tool 1: Cluster mapping

### Objectives

(i) To prepare an economy-wide outline of specific nuclei of economic activities within the overall economy; (ii) define the linkages, externalities and synergies that bind the entities into a cluster; (iii) begin the process of discovering possible gaps and weaknesses that limit the competitiveness at both cluster and economy levels.

### Possible outcomes

(i) Motivation to look at the elements of the business environment that hinder a cluster's balanced development; (ii) insights into a cluster's performance relative to peers and competitors; (iii) a deeper understanding of clusters as the location of related activities, not just the concentration of companies in a single segment of the value chain.

### Entities involved

Government economic policymakers, industry specialists, cluster leaders, facilitators, and donors.

### Key caveats

Each cluster has to identify the activities in which it must be strong to achieve high productivity and deliver on its specific value proposition. The list of activities for a cluster provides an indication of the impediments to competitiveness that the intervention will attempt to remedy; it should not be interpreted as a benchmark that needs to be met equally by all clusters.

**Cluster mapping is about cluster-economy embeddedness...**

Cluster mapping is about contextualizing a specific cluster of economic activities within the overall economy. An economy-wide outline is developed to indicate relative contributions made by specific nuclei of economic actors, or clusters, on various aspects such as employment, innovation, dominance, linkages, etc. Within this, specific clusters can be disaggregated to outline the related activities that are graphically organized around related subgroups of: core production and sales, suppliers, service providers, educational and research activities, and regulatory bodies. Where appropriate, key public institutions can be mapped

...and it evolved  
only recently as a  
scientific tool...

along with the clusters to allow a cursory assessment as to how strong or weak they are in their specific activities.

Evolution of cluster mapping as a scientific tool is a relatively recent development. Heretofore, cluster initiatives drew on specialists' insights to understand which of the industrial sectors were more instrumental to economic growth. The development of cluster mapping as a scientific tool relates to two aspects of cluster behavior: First, cluster mapping is based on the mapping of the industrial classification code into clusters. Second, these data allow the mapping of clusters across geographies indicating the locations and perimeters of the nuclei of related economic actors.

...to analyze  
revealed effect of  
clusters' spillovers...

The cluster mapping exercise should be differentiated from other studies looking into supply chain linkages and specific spillovers, for example, input-output analysis, patent filing, etc. Unlike these studies, a cluster-mapping exercise, as prescribed by the Institute for Strategy and Competitiveness of Harvard Business School, does not look into specific transmission channels for the local spillovers that drive the given nuclei of economic activities. Instead, it is based on the revealed effect of these spillovers that becomes apparent in the actual locational decisions that firms within clusters take. At its core, cluster mapping firmly grasps the sourcing and selling behaviors as well as the business alliances of firms within the broader economy.

The key advantage of the cluster mapping exercise is its grounding in actual cluster behavior. Without tracking the actual linkages and contributions across and within clusters, the comparisons between industrial sectors or geographic regions are likely to be only arbitrary. The key disadvantages of the cluster mapping exercise, however, are two: First, it is not easy to formulate the exact definition and perimeters of clusters. Second, obtaining data at this level is time consuming, especially in less developed countries.

...focusing on size, specialization and linkages.

Cluster definitions are not always geography-specific, especially for the more sophisticated industrial sectors. For example, in a region dominated by tourism it is fair to subsume a large part of cultural and entertainment industries as well as national or regional branding agencies. Data gathering at this level is a time-consuming exercise and this may sometimes be unfeasible in several developing countries. Where partial data exists, cluster mapping should be combined with other data from secondary sources, including national statistics and registers, to gain a richer understanding of the economic performance of a cluster, of the factors that explain the cluster's profile and performance, and of its likely future directions.

Once primary and secondary data collection is complete, some of the following perspectives can be developed to understand the cluster's relative contribution to the economy as well as the type of spillovers and linkages that create positive economic effects.

- **Size and dominance:** The relative importance of a cluster within an economy can be reflected in the number of employees as well as the wealth it generates for them in terms of wages and other remunerations.
- **Specialization:** If a cluster is more specialized than the overall economy across regions, this is likely to be an indication that the economic effects of the regional cluster have been strong enough to attract related economic activity from other regions. In addition, spillovers likely are stronger than those of less specialized clusters.
- **Linkages:** If a cluster has far-reaching forward and backward linkages with which it is firmly connected to, this indicates its inherent externalities.

Some examples of cluster mapping may help clarify the concept. The cluster map for the Life Sciences Cluster in Cambridge, Massachusetts in the United States uses a generic structure of all activities that might be present in an economic nucleus of this type. It then uses quantitative data to differentiate activities by the relative strength of the loca-

tion in this activity, for example, by looking at the location's share of national employment. The data indicate the clear focus on research and devices with weaker positions in manufacturing but also an impressive breadth across a wide range of activities that have linkages to life sciences. Because of this analysis and further discussions with cluster participants, efforts were started to enable the location to gain manufacturing sites nearby. The analysis had shown that while Cambridge was to remain a research hub, this function increasingly required to have the first production line within close proximity to allow tight contacts between researchers and engineers as the manufacturing of the substances was scaled from laboratory to industrial size.

The cluster map for the Thai tourism cluster in Phuket was much simpler and less quantitative, reflecting the more challenging data situation typical for many less advanced economies. It was used to get a local team thinking about the different elements and activities that contribute to the value that tourism clusters provides to customers as well as the communities in which it happens. In applying this structure, the team made headway in understanding the reasons Phuket generated limited value from the tourists despite the presence of many high-priced hotels. The cluster map identified strengths in transportation (tourists had many choices to get to Phuket) and hotels (the island is home to many high quality hotels) but also weaknesses in attractions other than beaches that would lead to higher spending by tourists.

Once potential clusters are selected for inclusion in an initiative, Tool 2 helps identify the products and markets in which each cluster competes. This is a prerequisite first-step. If products and market segments are incorrectly identified, the remaining diagnostic tools are likely to be misapplied and hence the analyses they produce are likely to be misleading. When properly defined, the products and market segments identified here can give direction to the Porter's Five-Forces and Competitiveness Position analyses (Tools 5 & 8), which offer more rigorous approaches to answer the 'where to compete' question.

## Tool 2: Product and Market Segmentation

### Objectives

(i) Identify the key products and market segments in which a cluster is currently and potentially active; (ii) team-building; (iii) generate a consensus regarding a cluster's key problems.

### Possible outcomes

Insightful analysis of the potentials of success and the impediments.

### Risks

Failure to perform due diligence by crosschecking information.

### Entities involved

A facilitator, current and potential cluster members, and representatives of policymakers and donors as observers.

### Key caveats

Members may not be fully aware of the basis of the competitiveness and success factors of rival clusters.

The facilitator should be sure the application of Tool 2 works as an effective team-builder. During their discussions, cluster leaders, government officials, representatives of supporting institutions, and perhaps donor representatives should build the relationships essential to develop and implement a successful cluster competitiveness strategy.

As part of the focus group discussion, the facilitator asks cluster members to rank the performance of their country versus countries they perceive to be the best performer(s) according to a set of clearly outlined criteria. If the cluster is large, it is advisable for the facilitator to precede focus group discussion with a flash survey to encourage broader participation and a more systematic analysis. Based on average rankings, a quick gap can be measured on the spot. This is not a scientific analysis but a tool to generate rigorous discussion, first on

the key criteria for competitiveness, and second on how they rank the performance of a perceived best practice country in each of these criteria and why.

## Steps to Applying Tool 2

### STEP 1: Identify Key Cluster Products

- To begin the process of identifying key products prior to visiting the country, conduct desk research from published materials and telephone conversations with policymakers and experts not only concerning the selected cluster but also the supporting institutions.
- Once in the field, consult industry leaders. In addition, centers of excellence are often found in universities, concerned ministries, and/or international organizations. Their experts can provide guidance and suggest key industry studies. Multiple consultations are recommended for accuracy.

### STEP 2: Identify Current Product and Market Segments of the Industry

- Based on primary and secondary information, identify key products and market segments to be focused on when applying subsequent tools and developing strategies. Prepare a market segment map for each product identified. Some of these key products may not yet exist but are seen as having potential.
- Crosscheck and enrich this information at the sub-product level by consulting industry experts and reviewing studies.

### STEP 3: Identify Potential Product and Market Segmentations

- This could be carried out in the beginning as an extension of the current segmentation study through primary and secondary research sources. It is a list of product segments and markets in which the cluster could aim to compete.

*(continued on next page)*

## Steps to Applying Tool 2 (continued)

### Cluster: Horticulture cluster, NWFP, Pakistan Product Category #101: Mangoes

#### Food

	Fresh fruit	Jams/spreads	Chutney	Candy/Dried	Mashed/mouse	Ice cream
Current product segment	✓ LM ✓ NM ✓ IM					
Potential product segment		✓ LM ✓ NM	✓ LM ✓ NM	✓ LM ✓ NM		

#### Beverages

	Juices	Sodas	Nectar	Pulp	Liquor
Current product segment					
Potential product segment	✓ LM ✓ NM				

#### Oil

	Cosmetics	Cream	Lotion
Current product segment			
Potential product segment			

*Note:* LM – local market and includes retailers within NWFP; NM – national market and includes sales through intermediaries and supermarkets in all of Pakistan; IM – international market and includes sales through traders mainly in the Middle East.

*Source:* J.E. Austin Associates Inc. analyses.



### Tool 3: SWOT – Strengths, Weaknesses, Opportunities, and Threats

#### Objective

Focus the discussion on the perceived state of the clusters with regard to competition in local and export markets.

#### Possible outcomes

A consensus on SWOT among stakeholders that will help define strategies to include in the initiative.

#### Risks

The analysis may be vague; cluster members' engagement may be shallow.

#### Entities involved

A facilitator, current and potential cluster members, and representatives of policymakers and donors as observers.

#### Key caveats

Although SWOT is familiar to most people and can be used to quickly organize information, it has limitations: it does not prioritize issues; it may not capture an accurate reflection of global markets; it is static and does not demonstrate causality; and it does not explain what causes the weaknesses.

This is the third interactive tool and its role is simply to clarify the perceived state of the cluster among the actors with regard to what are its strengths and weaknesses, who are the main competitors, and what can constitute a feasible competitiveness strategy. Clarity on this point means that later exercises can effectively address how to achieve precision in benchmarking cluster performance against its competitors and how to design market development and policy strategies.

An assessment of strengths, weaknesses, opportunities and threats is not a new framework for facilitation but it can be a useful exercise to bring key cluster actors into one platform to agree on the key challenges for the cluster and possible ways forward. A template of questions is listed in the box below.

## SWOT Template of Questions

	Strengths	Weaknesses
Internal	<ul style="list-style-type: none"> <li>• What are our raw material strengths?</li> <li>• What are our human resource strengths?</li> <li>• What are our locational advantages?</li> <li>• What are our climatic advantages?</li> <li>• What are our cost advantages?</li> <li>• What are our distribution network strengths?</li> <li>• What other unique resources do we have?</li> <li>• How are we capitalizing on these assets?</li> <li>• What are our strengths re public policies and institutions?</li> </ul>	<ul style="list-style-type: none"> <li>• What are our marketing weaknesses?</li> <li>• What are our distribution weaknesses?</li> <li>• What are our production weaknesses?</li> <li>• What are our input weaknesses?</li> <li>• Do we have adequate financing and is this critical?</li> <li>• How capable is the industry of working together?</li> <li>• What are the key policy bottlenecks for the industry, business environment &amp; infrastructure</li> <li>• How effective are the public institutions supporting or regulating the industry?</li> <li>• What other weaknesses plague the industry?</li> </ul>
External environment	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• What are the growth respects for the industry?</li> <li>• What are potential niche products or markets?</li> <li>• Are there unrealized value-adding opportunities?</li> <li>• Are there new market access opportunities nationally or internationally?</li> <li>• What public institutions (embassies, chambers, associations) can help access foreign markets?</li> <li>• What communication mediums can be tapped for more info—internet portals and newsletters?</li> <li>• What key trends (market, trade, and industrial policies) are building new opportunities?</li> <li>• Where are the product/industry segments that we directly compete with? What are <i>they</i> doing?</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• What can go wrong?</li> <li>• What is the competition doing?</li> <li>• What are the major domestic trends today that could affect us?</li> <li>• What are the major global trends today that could affect us?</li> <li>• Do we know how international markets view us?</li> <li>• What are our buyers saying?</li> <li>• Are there possible substitute products that can displace us?</li> <li>• Are we meeting international labor standards?</li> <li>• Are we meeting international quality and consumer safety standards?</li> </ul>

Source: J.E. Austin Associates Inc. analyses

## An Example of Tool Application: Lao Tourism

A cluster-based methodology was applied in Lao tourism sector as part of the World Bank competitiveness assessment. Over fifty entrepreneurs, researchers and policymakers actively participated in this exercise. Following is the SWOT table that emerged from this interaction which guided formulation of a competitiveness strategy for Laos. This may serve as a good example as to how a SWOT tool can be applied in a cluster development process.

Internal	<b>Strengths</b> <ul style="list-style-type: none"> <li>• Great natural beauty</li> <li>• World heritage sites</li> <li>• Beautiful architecture</li> <li>• A navigable river for boat tourism</li> <li>• Relatively low costs</li> <li>• Unique ethnic cultures</li> <li>• Well known in France</li> <li>• Hospitality is an asset</li> </ul>	<b>Weaknesses</b> <ul style="list-style-type: none"> <li>• Lack of bilingual and multilingual staff</li> <li>• Short high season</li> <li>• Unfavorable image during low season</li> <li>• Relative isolation</li> <li>• Limited air transport</li> <li>• Low capacity to market internationally</li> <li>• Lack of access to finance</li> <li>• Short stays and low spending by tourists</li> </ul>
	<b>Opportunities</b> <ul style="list-style-type: none"> <li>• Growth in global tourism</li> <li>• Operators seeking new destinations</li> <li>• Growth of low season targets (ASEAN)</li> <li>• Thai Air as promotion channels</li> <li>• Opportunity to shape image as a newcomer</li> </ul>	<b>Threats</b> <ul style="list-style-type: none"> <li>• Regional image due to terrorism and SARS</li> <li>• Adverse environmental and social impact if tourism is not well managed</li> </ul>
External environment		

Source: J.E. Austin Associates Inc. analyses

## Tool 4: GAP analysis

### Objective

To help steer the focus to issues outside the cluster—competition is outside the country not inside the room.

### Possible outcomes

Generic insights into a cluster's major drivers of success.

### Risks

Failure to do due diligence by crosschecking information, particularly regarding international competitiveness.

### Entities involved

A facilitator, current and potential cluster members, and representatives of policymakers and donors as observers.

### Key caveats

Local firms may not be fully aware of the basis of competitiveness and the key success factors of industries outside their own country. Sometimes, local firms not historically exposed to global competition have a higher self-image than warranted. This tool provides a high Delphi value in terms of collective local expertise, but it needs to be quantified by rigorous industry benchmarking and verified by global industry experts.

On the surface, the Dominican Republic's cigar industry seems to perform as well as or better than Cuba's, but the Dominicans' competitive position and hence long-term profitability are vulnerable. The Cuban industry has superior direct control over its marketing and distribution channels in Europe while the Dominicans depend on international brands and favored access to the US market. The Dominican industry imports cigar wrappers whereas the Cubans produce their own. The Dominicans can address these gaps by raising quality and new branding. Because their companies are not state-owned, they may be more capable of innovating on these fronts.

## An Example of Tool Application: Dominican vs. Cuban Cigars

Critical Success Factors	Dominican Cigars	Cuban Cigars	GAP
Sales Volume	5 (120 million sold)	4 (80 million sold)	-1
Flavor	4 (#2 in blind taste tests)	5 (#1 in blind taste tests)	1
Packaging	4 (imported wrapper)	4 (local wrapper)	0
R&D Capacity	3 (weak—but improving)	5 (strong)	2
Distribution Channels	2 (mostly sells to Davidoff, etc.)	5 (controls European distribution channels)	3
Final Market	3 (over reliance on US embargo of Cuba for privileged access)	5 (strong European penetration)	2
Industry Management	4 (dynamic enterprises)	3 (state-owned enterprises)	0
Marketing	3.5–4 (rising image as a “cigar country”)	5 (strong “Cuban” brand)	3

*Rating:*

0 = non-existent

2 = poor performance on this dimension

4 = good performance

1 = extremely poor performance on this dimension

3 = average performance on this dimension

5 = excellent performance

Source: J.E. Austin Associates Inc. analyses

Primary research for this exercise can be carried out using the questions listed below, which must be contextualized through in-depth interviews with policymakers, industry scholars, business strategists, and cluster leaders. Secondary research using existing reports on firms, industry, and the economy can complement the primary research. The findings can be validated by presenting them to a focus group, which can elaborate on the nuances.

## Tool 5: Porter's Five-Forces

### Objective

(i) To ascertain a cluster's strategic efficiency; (ii) determine the long- and short-term implications of competing in certain product and market segments.

### Possible outcomes

(i) A clear understanding of the attractiveness of a cluster in selected product/market segments; (ii) an indication of the impediments to competitiveness that should be removed by the cluster initiative.

### Risks

Overly pessimistic views of the business environment and public policies.

### Entities involved

A facilitator, current and potential cluster members, and representatives of policy makers and donors as observers.

### Key caveats

This approach provides a means to evaluate potential profitability of a product, service, industry, or cluster. However, this potential is not a final determinant of profitability because firms within the same industry may use different business models to achieve varying returns on revenues or assets.

Porter's Five Forces analysis is often done separately for each product or market segment identified by the product/market segmentation analysis (Tool 2). In some cases, the cluster may choose to focus only on one or some of the product or market segments.

This tool is based on the principles of Porter Diamond (see Chapter 4) which was modified to address the circumstances of developing countries, where the business enabling environment and policy/infra-structural bottlenecks may be far more important constraints than the degree of a firm's sophistication. Sophistication is reflected in its ability to meet the challenges it faces.

Five-Forces analyses of the two product segments in the Pakistani gems cluster demonstrate how it would be better off if it re-positioned to produce fewer unprocessed and more value-added gems. Pakistan has been slowly building a reputation as a regional gemstone-trading hub but mainly in the unprocessed gems segment. Thanks to long experience in the non-value-added sector and gradual exposure to the value-added sector, with the help of some technical assistance, Pakistan may

## Porter's Five Forces: Data Capture Table

(separate analysis per product or market identified through Tool 2 exercise)

### A. Rivalry

- Who are the major players in your industry? What percentage of the industry's production do they account for?
- How many firms account for this percentage? What is their annual growth rate?

### B. Threats of new entrants

- How many firms entered this industry last year?
- What is the minimum capital requirement to start a business in this industry?
- What are the 2–5 key constraints in starting a business? This could include high initial investment costs, brand name requirements, established distribution channels, policy or business environment issues, and industry-specific issues.
- How many firms exited the industry last year?

### C. Threat of substitute products or services

- Do buyers have a tendency to buy substitute products? What is your estimate of the price difference between your product and its main substitute?

### D. Bargaining power of buyers

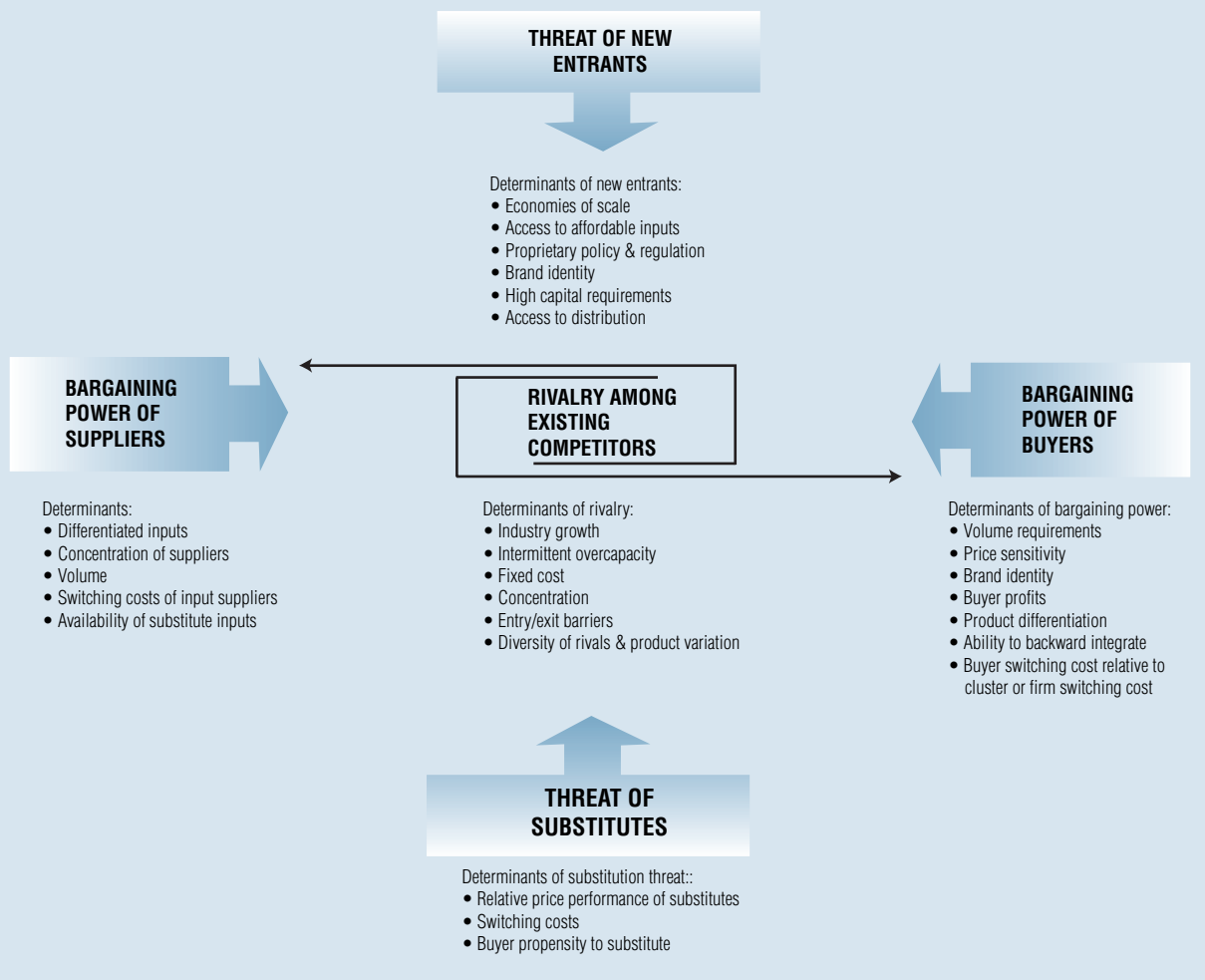
- Who are the major buyers in your industry? What percentage of sales do they account for?
- How many buyers account for this percentage? Are buyers price sensitive?
- What is the approximate growth in demand per year?

### E. Bargaining power of suppliers

- Who are the major suppliers in your industry? What percentage of industry purchases do they account for?
- How are your suppliers organized? Do forms of co-operatives or state-controlled boards regulate their functions? If so, are they market efficient?
- Is the supply of inputs reliable or do they face seasonal or transportation-based disruptions?
- Do you have access to differentiated inputs as per your need?

now be in a position to make a strategic shift toward value-added gems and jewelry, which have better long-term profitability prospects and offer stronger bargaining power in relation to buyers, suppliers, and potential substitutes.

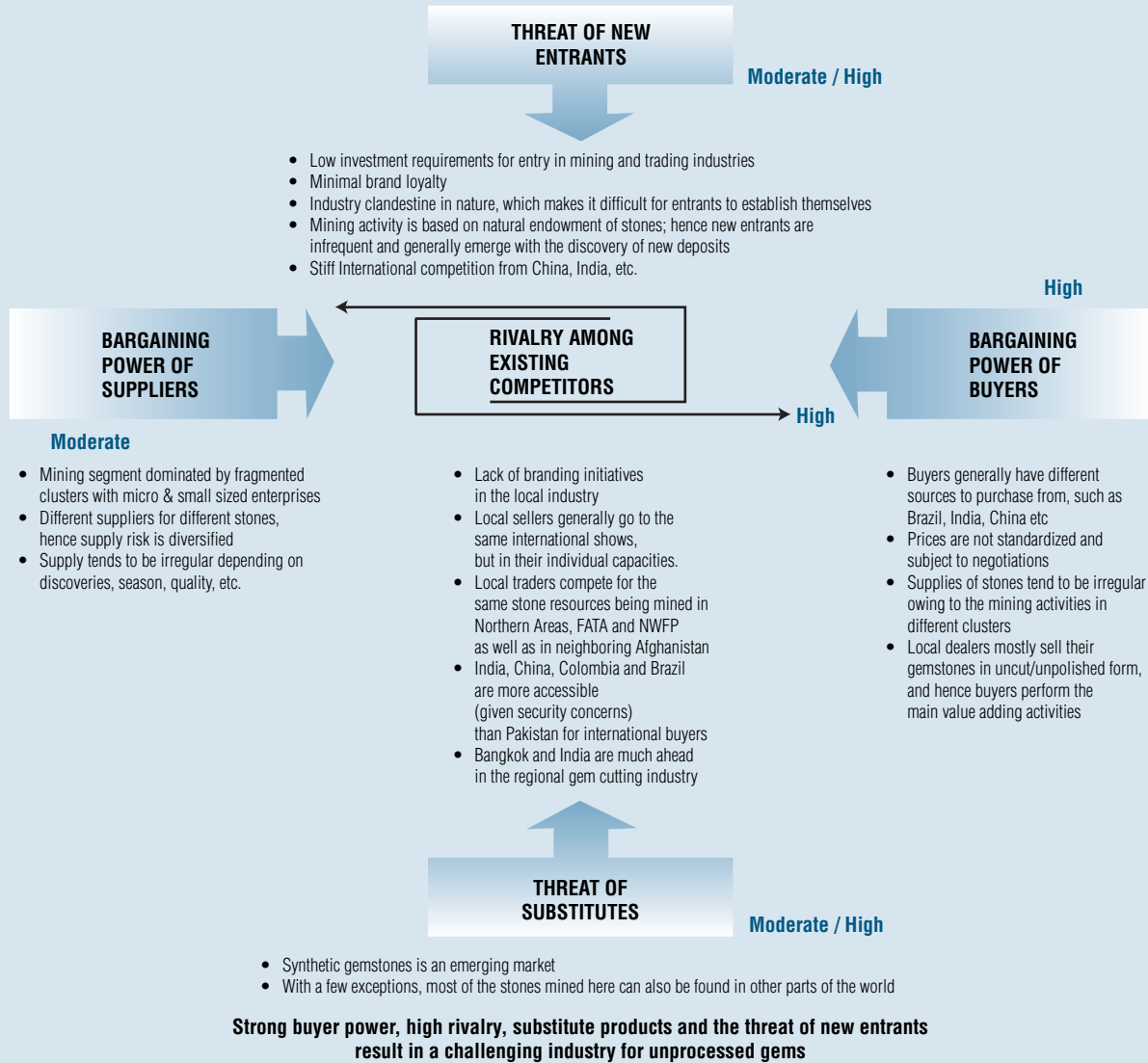
### Summary of Key Drivers in Cluster Attractiveness Analysis



Source: J.E. Austin Associates Inc. Analyses

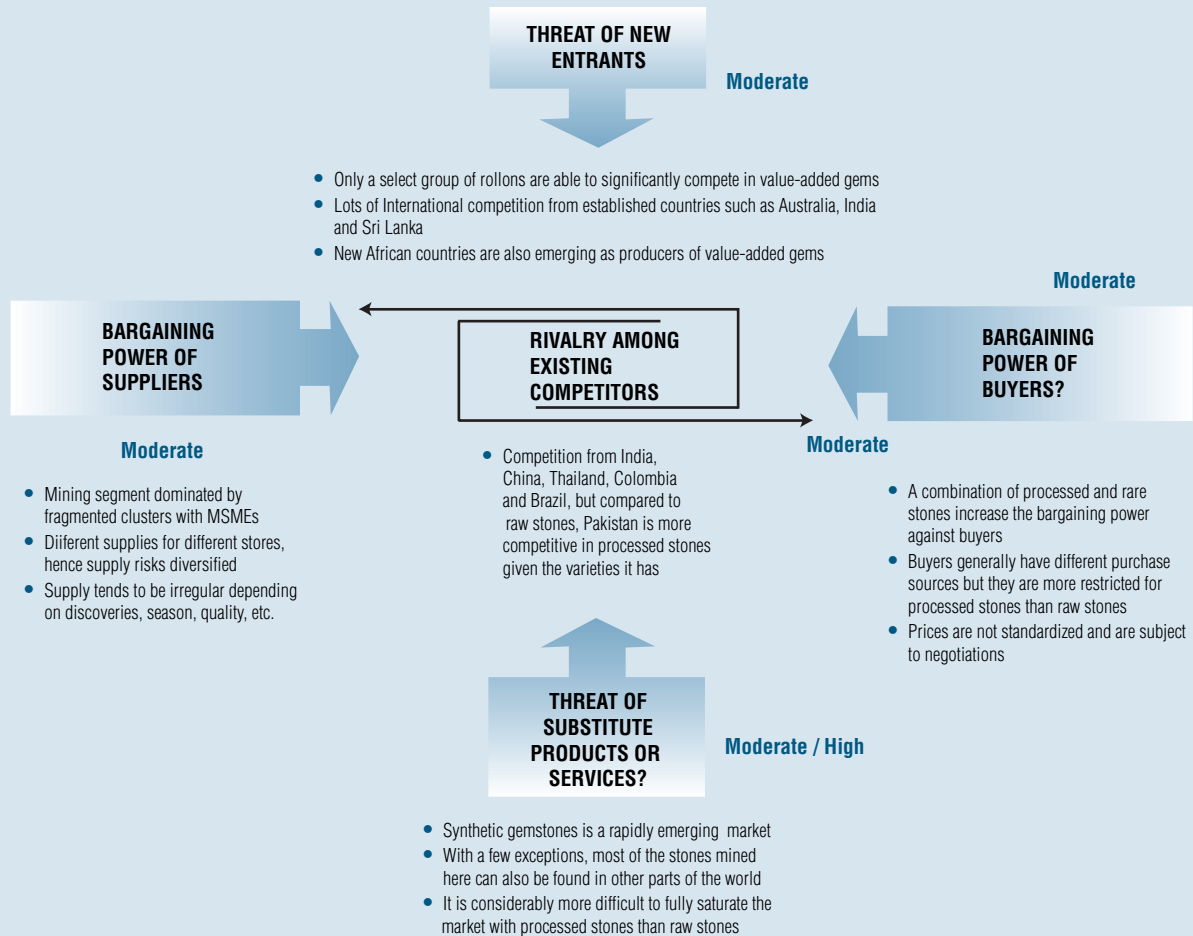


**An Example of tool application: Product Segment 1 – Unprocessed Gems, NWFP**



Source: J.E. Austin Associates Inc. Analyses

**An Example of tool application: Product Segment 2 – Processed Gems and Jewelry, NWFP**



**Value-added stones places the NWFP Gems sector in a better bargaining position with buyers, while it is less threatened by new entrant, or by substitute products**

Source: J.E. Austin Associates Inc. Analyses

## Tool 6: Value-Chain Analysis

### Objective

(i) Assess linkages within the value chain of production; (ii) develop alternative strategic options and scenarios.

### Possible outcomes

(i) Effectively engage all stakeholders in the value chain; (ii) broaden cluster composition.

### Risks

Information generated may be too vague if not conducted with a strategic mind.

### Key caveats

This is a relatively broad tool, which offers a bird's eye view of a cluster's operations. To develop definitive business strategies, it needs to be complemented with tools such as competitive positioning, which bring more precision to the analysis.

The value-chain analysis framework centers around three major segments that describe each production link in the value chain: source, make, and deliver. Each activity mapped in the value-chain diagram can be represented by a cost breakdown. In addition to mapping the value chain, a VCA typically includes measurement of the chain's performance, establishment of benchmarks, and finally, analysis of the performance gaps, taking into account government and market failures. (FIAS, 2007)

Value-chain analysis is conducted in two stages: (A) a snapshot of the current value chain is prepared, where all involved actors and activities are listed, and key productivity issues are highlighted; (B) informed by this, a value-chain proposal is developed, which ideally benchmarks the value chain to assess potential interventions so greater value can be added during the production process.

## Value Chain Analysis: Data Capture Table

### For a value chain snapshot

- What are the key inputs/raw materials needed to produce a good or service?
- Who are the key players/stakeholders in creating this product?
- What are the steps that transform the inputs at each stage to an output until the final product is delivered to the consumer
- Define these key subsectors and identify their value addition
- What are the key interactions between the stakeholders in this value chain? How many of these are formal?
- What are the contractual norms in the value chain of each subsector? What are the ordering and payment norms?
- For each of the following inputs, detailed questions on the (i) quality and quantity of product, (ii) regulatory and compliance issues, (iii) the split between imports and exports (iv) financing and capital (v) training and upgrading (vi) role of technology and R&D (vii) transport costs and logistics (viii) extent and nature of wastage:
  - Raw and intermediate materials used in the making of products
  - Primary factor inputs of land, labor and capital used in the production process
  - Utilities and other costs
  - Trade and transport in delivery of the end product to next stage in value chain
  - Marketing and distribution channels to customers for intermediate and end products

### For a value chain proposal

- What are competitor value chains doing within the country, the continent or region and globally? What international benchmarks are used by the industry?
- How does the productivity (for labor, capital, and key inputs) of national firms in the sector compare with global & regional best practice?
- How does the capacity utilization of domestic firms in the industry compare with global & regional best practice?
- How does the technology in the sector compare with global and regional best practice?
- How do the factor costs compare with global & regional best practice (labor, capital, and key inputs)?
- What are the productivity cost, price, and time figures at each step of the value chain such as (i) output per unit labor hour; (ii) capital and equity efficiency; (iii) yield per unit of land; input conversion ratio; (iv) incremental output/input ratio; each input costs as a percentage of shipment value; (v) cost of bureaucracy and red tape; time taken to start, transact and finish business; (vi) time taken for customs clearance and export transactions

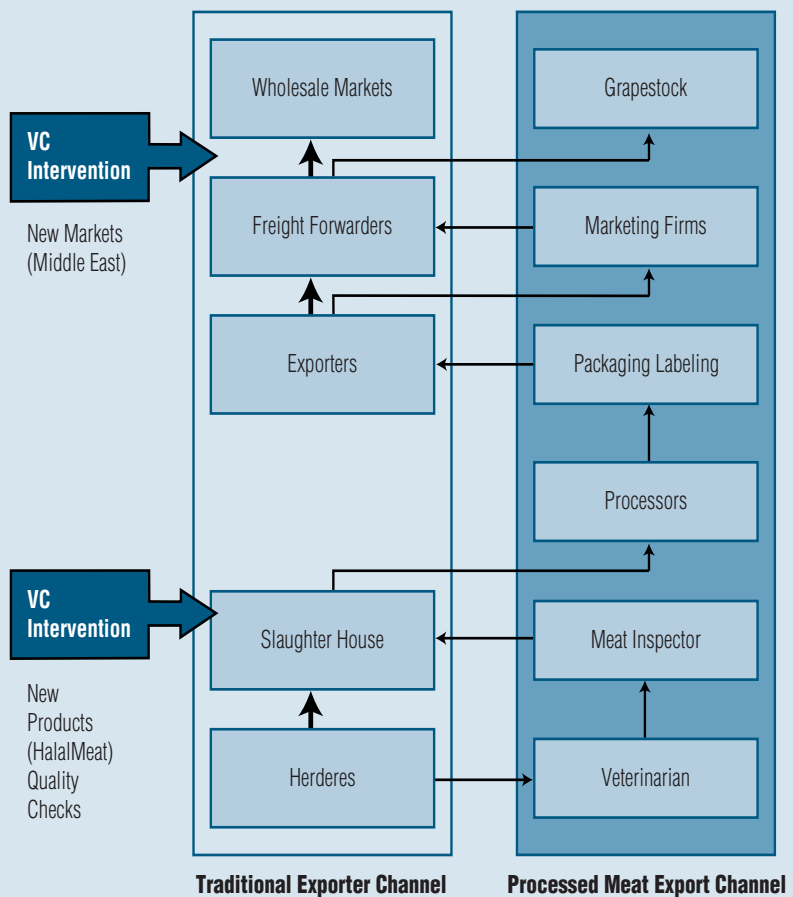
### Example: Upgrading the Value Chain in Mongolian Meat Industry

The Mongolian meat industry has traditionally exported animal carcasses to Siberia. Through work with the Mongolian Competitiveness Initiative (MCI), plans were made to integrate value-added operations such as quality checks, packaging, and marketing into the meat industry value chain. These upgrades were intended to reorient firms toward more demanding and lucrative export markets.

With USAID and USDA assistance, the cluster solicited a former USDA expert in meat regulatory standards to facilitate improvements in health and sanitary standards. MCI also identified transportation options and completed cost studies to confirm the feasibility of exporting to five Asian and two Middle Eastern markets. Lobbying various associations and government agencies, the project worked with industry to streamline government policies and standards related to agricultural exports.

In Figure 1, both the traditional and a new “processed” meat export value chain are detailed. In this figure, the processed-meat export channel represents the opportunity to add value by incorporating additional operations within the value chain. The “VC Intervention” arrows represent opportunities identified for intervening in the Mongolian meat industry to deepen the value chain.

**Figure 1: Mongolian Meat Export Value Chains: Processed & Traditional “Un-Processed”**

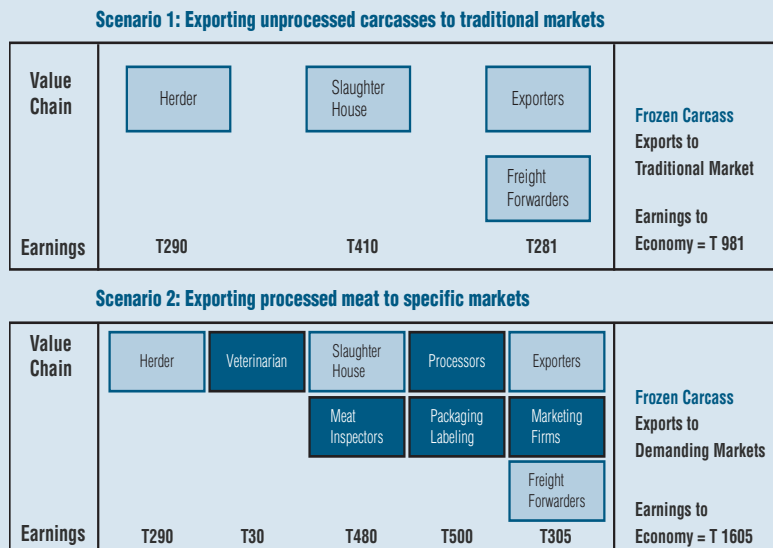


(continued on next page)

### Example: Upgrading the Value Chain in Mongolian Meat Industry (continued)

“Figure 2: Deepening the Value Chain Under Two Scenarios” quantifies the value that can be added by deepening the value chain. In this instance, the addition of veterinary services, meat inspection, processing, packaging, labeling, and marketing operations to the Mongolian meat value chain provides gains of nearly 40 percent in meat industry earnings.

**Figure 2: Deepening the Value Chain under Two**



While value-chain, market-trend, and competitive-position analyses (Tools 6, 7 & 8) concern firms, government officials should at least monitor their application; it can help them better understand industry bottlenecks and develop policies and programs.

## Tool 7: Market Trend Analysis

### Objective

(i) To pin down the potential product and market segments that a cluster may be missing; (ii) to assess and anticipate the performance of regional and global markets in terms of product, price, volume, and market share.

### Key caveats

This analysis gives excellent insights into the cluster's international competition but does not fully answer the question: "What prevents my competitors from taking my customers?"

Market Trend Analysis quantifies trends that are critical to a cluster strategy formulation. It is sometimes combined with but usually done as a prelude to competitive positioning analysis (Tool 8). It seeks to answer questions such as: What are the potential product and market segments that the cluster may be missing? How has the cluster been performing at the global and regional level, and how is it expected to perform? What are the global industry trends regarding performances in terms of product, price, production volume, and market share? Detailing global industry and/or market trends can provide critical insights to shape the cluster strategy.

## Market Trend Analysis: Data Capture Table

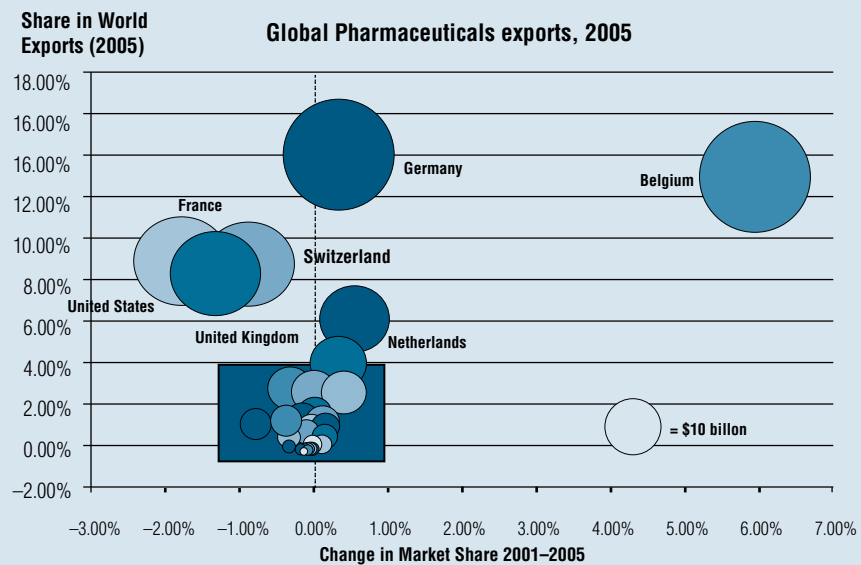
### A. Data on global market

- What are the total volume and the value of world market in revenues?
- What is total volume and value of world exports and imports?
- What is the rate of growth of industry, projected rate of growth (to assess potential)?
- Who are the leading countries in the global arena? What are their market shares and changes in market share over a time period (to assess their growth)?
- How do the country and the cluster perform in the global market with regard to revenue, trade, and market share?
- Who are the regional leaders? Where does the country stand regionally and globally?

### B. Structure of global industry and trade

- How is the industry structured globally? What are the different product segments in the industry?
- What does the value chain look like?
- What are exports and revenues?  
What are the growth rates for each of these segments?
- *Pricing*: What are the major pricing determinants in the world market? Is it supply or demand driven? Is the price volatile? How does elasticity of demand affect prices in this industry?
- *Cost Structure*: What are the different costing models being used in the industry globally?
- *Technical Analysis*: What is the role of technology in production? How is it changing?
- Does being on the cutting edge of technology make a difference to competitiveness?
- What, if any, are the trends in production technology?
- Does R&D make a difference to the competitiveness of the industry? If so, how much is spent on R&D globally?

**Example A: Jordanian Pharmaceuticals**  
(country shares of world exports and change over time)





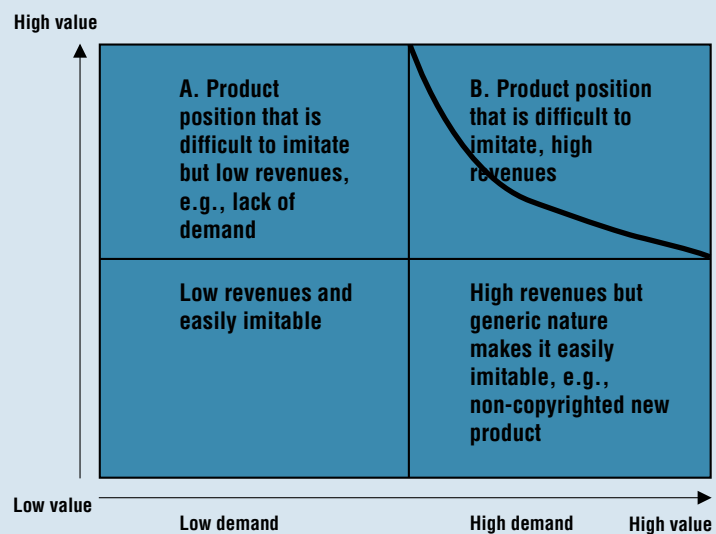
## Market Trend Analysis: Data Capture Table (continued)

- How is this expenditure split between the private and public sectors?
- What is the level of patenting in the industry?
- What sort of organic and targeted innovation is happening to create niche specialty segments that could add value to the product? (see the Uganda example)
- *Financial Analysis*: What are the global expenditures in this industry by private and public sectors?
- What is the nature of financing in the industry? Is it loan, equity, or venture capital intensive?
- What are the industry's FDI flows globally?
- *Nature of the labor force*: Are labor force quality and size important?
- What are the emerging trends to ensure the supply of this labor force quality? What can be seen among the leading countries?

### Example 1

The diagram measures the degree of industry segmentation trends in two dimensions: (1) product sophistication (generic versus specialty coffee), and (2) effective demand (low versus high). The best position for a firm or cluster is to aim for product sophistication in high demand segments, resulting in highly defensible positions and sustained profitability.

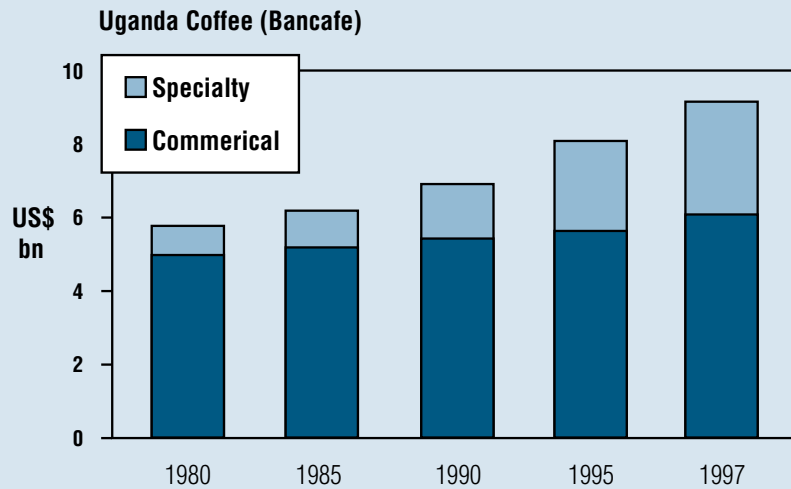
The curve represents the achievable level.



## Market Trend Analysis: Data Capture Table (continued)

The diagram to the right shows the global demand for specialty coffee increasing at a rate that is several times faster than generic coffee.

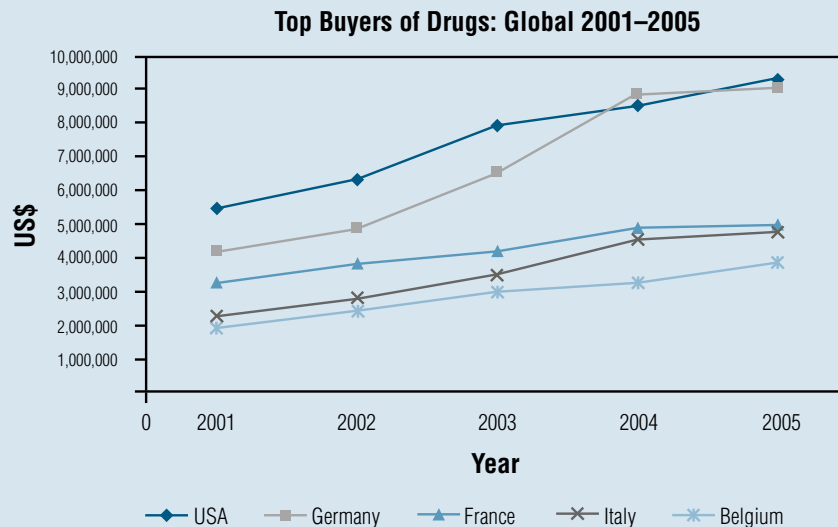
This type of analysis has been applied by a number of countries in recent years, particularly in Africa. It helped re-position their coffee industry from crowded generic coffee markets to more attractive specialty segments.



### Example 2: Jordanian pharmaceuticals

The data below shows the market trends in major buying countries, with the U.S. and Germany being the most attractive overall export destinations. It is important to note that this analysis shows general trends, rather than specific segment trends.

Export data on comparison countries (actual or potential competitors) below indicate that large exporting countries such as Canada have experienced high rates of growth, but Jordan's regional competitors have seen limited growth and even decline. This could be due to a number of factors, including difficulties in penetrating existing



Source: ITC (2008), product code=541

## Market Trend Analysis: Data Capture Table (continued)

distribution channels in key markets, or inability to differentiate with most advanced competitors.

### D. Global Environment in which the Cluster Competes

- What are the current rules and regulations affecting the global industry? Do global standards need to be met?
- How are these evolving?
- What are the trends in state and private sector roles among successful countries?
- What is the nature of complementary industries? How are they performing globally? Is the cluster's strength growing? Are threats to the cluster developing?

### E. Critical Success Factors

- What are the critical success factors for firms and countries to compete in this industry?
- Do the leaders use unique selling propositions/models to compete?

### F. Future Forecasts and Estimates

- What are the global growth projections for the industry? What are the estimates of revenue, exports, and market shares?
- Where does anticipated demand lie?
- What does the future structure of the industry look like? Will the value chain and/or the delivery method for the product or service change?

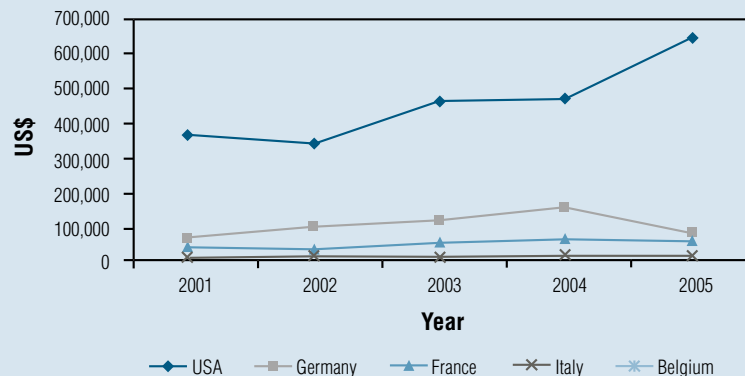
### Primary Sources

Surveys of the country's industry organizations and leading firms, business leaders, regulatory bodies, and key state officials associated with the industry

### Secondary Sources

World regulatory and standardization bodies (WTO, ISO)  
Industry studies by leading global research firms

**Supply in Selected Country (Jordan Comparators):  
Global 2001–2005**



Source: ITC (2008), product code=541

## Tool 8: Competitive Position Analysis

### Objective

(i) To analyze key cluster products and services on attributes decisive to desired market segment vis-à-vis their competitors. This analysis helps inform cluster stakeholders about opportunities to reposition the cluster, preferably to higher value-added market segments or into the lowest cost position. The product scope analysis that is part of this tool helps determine product position in terms of complexity, variety, and value addition. The cost benchmarking element helps prioritize and structure key areas for improvement and helps set quantifiable and achievable goals.

### Key caveats

This analysis can provide a general strategic direction but does not outline specific actions and should be complemented with other resources, such as market research. Sometimes, obsessive cost benchmarking will limit a cluster to imitating, not innovating.

Tool 8 draws on primary and secondary data. Experience gained in applying the preceding tools will indicate who the best primary sources are and how to conduct interviews and focus group discussions. The secondary sources for a competitive position analysis include industry reports, competitors' annual reports, websites, and interviews with their suppliers and buyers.

Below we list a broad template which can be followed to assess the product scope and differentiation. A first step is to benchmark size and share of the market that the cluster currently and potentially operates in. This includes a scientific analysis that ascertains growth potentials. It can then provide a basis on which to formulate an effective strategy for achieving such growth.

## Product Scope and Differentiation Analysis: Data Capturing Template

### A. Assess and benchmark size and share of market

- What are the main products/product lines (or services) in this cluster?
- What are the net export sales for these product segments? (actual or estimated)
- Who are your 3–5 major international competitors for each product listed in the preceding item?
- What are the net export sales for each international competitor?

### B. Assess and benchmark product scope (Y-axis)

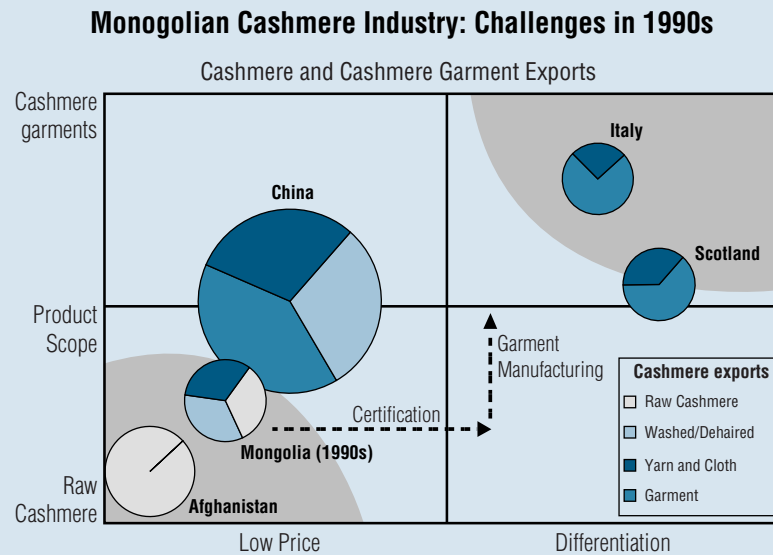
- How does the complexity of your products compare to that of competitors'? Use the following scale: 1 = low (e.g., raw products); 3 = medium (semi-processed e.g., yarn); 5 = high (e.g., garments)

### C. Assess and benchmark product differentiation (X-axis)

- How do your products and the competitor's compare in level of differentiation? 1 = low (i.e., price competition); 3 = medium (price & differentiation); 5 = high (differentiation)

## Tool Application Example: Mongolian Cashmere

In the 1990s, Mongolia produced the world's best raw cashmere. However, the country had great difficulty competing in apparel and other value-added cashmere products. In addition, Mongolian cashmere exporters had to compete directly with Chinese producers, who paid herders more for raw cashmere. Competitive position analysis helped the Mongolia industry identify opportunities and reposition toward differentiation, first by certifying its raw materials and subsequently developing and implementing strategies that added value through cashmere-based garment manufacturing and branding.



## Cost Benchmarking: Data Capturing Template

### A. Internal Costs

- Which product(s) should we benchmark?
- What are the different components of the cluster's products?
- Using a uniform unit of measurement, what is the value of each cost component?
- What are the crucial cost drivers?

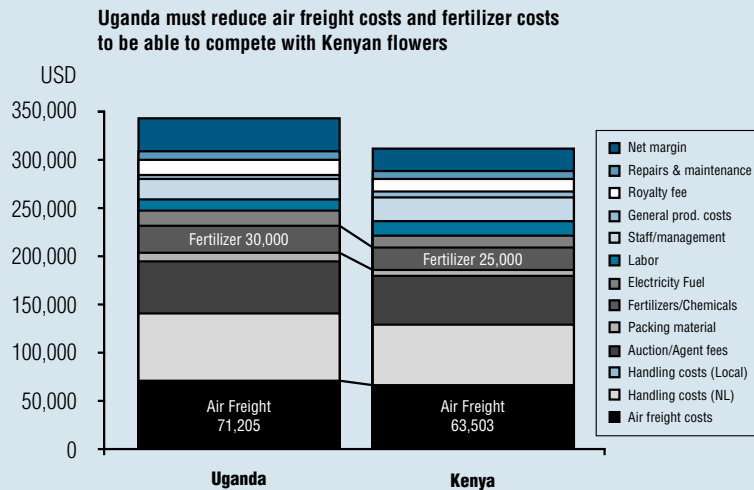
### B. Competitor Costs

- Who are your main competitors?
- What is the value of each cost component for your competitor's product?
- What are their crucial cost drivers?

### Example 1: Tool Application Example: Uganda Floriculture

The following example is an application of cost-benchmarking analysis.

- To help assess Uganda's floriculture competitiveness, the World Bank benchmarked production costs against those of Kenyan growers.
- Kenya was selected because it is located in the same geographic region and competes with Uganda.
- The analysis (below) shows that Uganda must reduce the cost of airfreight by at least 17% and of chemical inputs by 11% to compete with Kenya.
- After identifying the key cost drivers compared with the competition, the next step is to identify the causes of high costs, which could involve the cost of regulatory barriers in air transportation.



Source: JE Austin analysis Inc. analyses

**Conclusion:** Ugandan flower exporters face a cost disadvantage because of high costs of air freight and fertilizers. It does have moderate cost advantages in labor and wages but not sufficient to compensate for the disadvantages. Directly competing on cost with Kenya will place Uganda at a continuing disadvantage. Instead, it needs to compete on quality, market niche, and higher-value products. By careful choice of products and markets, it can improve margins.

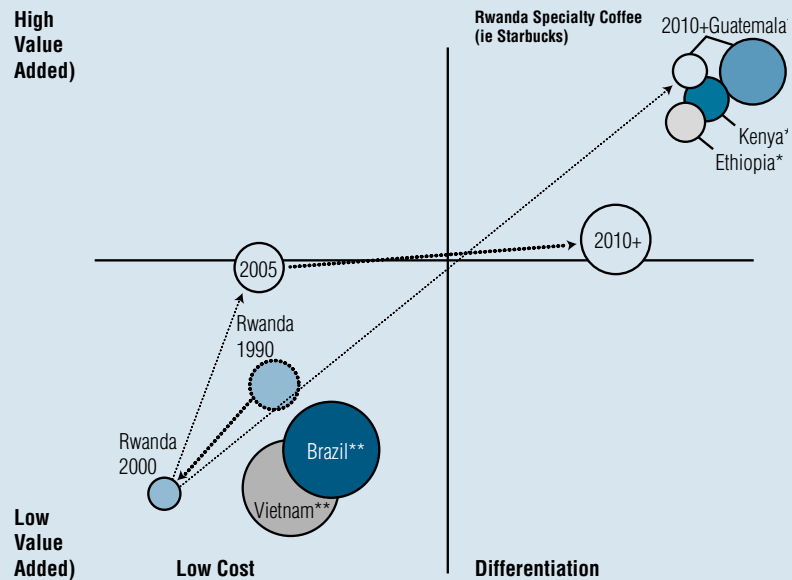
## Cost Benchmarking: Data Capturing Template (continued)

### Example 2: Tool Application Example: Rwanda Coffee

#### Competitive Position Analysis

A similar case is that of Rwanda coffee. Total production grew from 16,000 to 29,000 tons between 2000 and 2004. During the same period, production of low-value coffee declined from 72 to 50 per cent of total production. In comparison, high-value coffee increased from 19 to 40 per cent.

Such an improvement was possible through repositioning of the coffee industry in Rwanda. Market research had showed that higher-value coffee was very attractive to global markets. World experts' cupping/taste results showed that Rwanda had significant potential to produce specialty coffee that can be at par with higher achievers like Guatemala, Ethiopia, and Kenya.



Source: J.E. Austin Associates Inc. analyses

\*Represents specialty coffee/not drawn to scale  
 \*\*Represents commodity coffee/not drawn to scale

## Tool 9: Old and New Institutions for Collaboration

### Objective

To identify whether a cluster has institutional and/or social capital to sustain collective action.

### Possible outcome

(i) Reform of existing government and/or private sector institutions; (ii) creation of necessary new institutions; (iii) stronger focus on the process of economic reforms and not just their content; (iv) stronger focus on regional institutional capacity and not just on the central government.

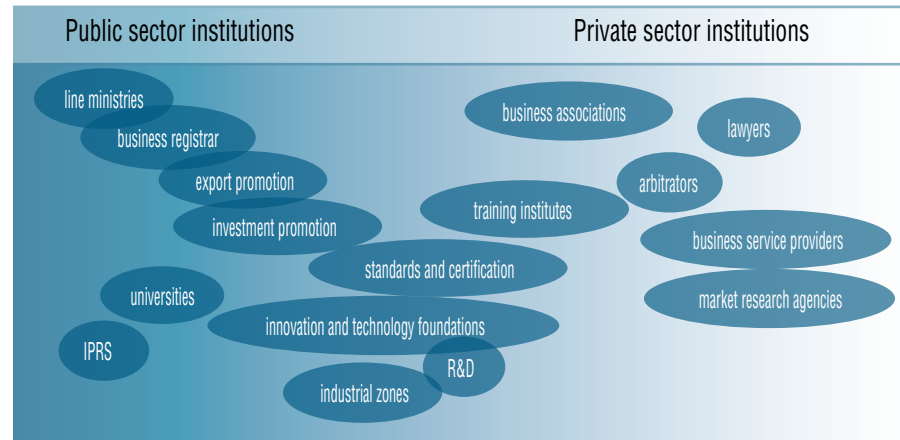
### Key caveats

Efforts of external organizations such as international donors to create institutions may face limitations. Institution-building is a long-term effort that has to deal with lack of trust among local partners, especially at regional levels. The experience in how to achieve this remains limited.

Institutions are the underlying rules of the game and can change the course of the economy for better or for worse. Some common examples include business associations, alumni, regulatory and standards-setting bodies, research centers, clubs, etc. However, the concept of institutions should not be limited to bureaucratic structures, because a wide range of implicit institutions also dictates how entrepreneurs react to a given set of opportunities and challenges. Some examples are the informal institutions that have to do with attitudes on rent seeking, trust, traditional know-how, and social capital. How entrepreneurs respond to a set of incentives or penalties will depend not only on the bureaucratic measures in place to facilitate them but also on a whole series of informal institutions that set the rules of the game.



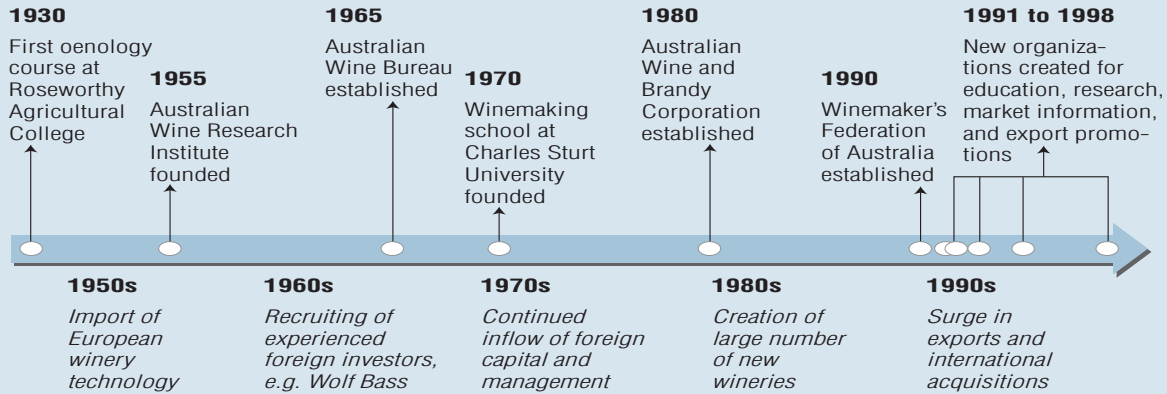
## Institutions are key to Competitiveness



Who is the key actor in developing institutions that matter for competitiveness? Governments have imperfect information and hence should not pick winners. The private sector also suffers from imperfect information and from externality dilemmas and hence is incapable of creating public goods on its own. Economic development requires collaboration among government at multiple levels, companies, teaching and research institutions, service-providers, standards-setting bodies, and private sector organizations. What works best is a bottom-up approach in which a wide range of public and private institutions takes joint responsibility for productivity. A cluster initiative is a good way to initiate this process.

An especially important set of institutions has to do with knowledge generation and sharing, which ultimately lead to a sense of economic identification or branding. Progress in technology, innovation, and product diversity come under this umbrella. It is important to note that such institutions have extended gestation periods. A good example is the Australian wine cluster (see figure below).

## The Australian Wine Cluster



Source: Michael E. Porter and Örjan Sölvell, The Australian Wine Cluster – Supplement, Harvard Business School Case Study, 2002.

The analysis of the Australian wine cluster with its rich set of institutions provides an important backdrop to understanding its remarkable success. While the cluster has long historical roots—some dating to the 1930s—the development of modern institutional structures began largely in the 1990s, when a mix of private, semi-private, and public organizations with clearly defined roles started to emerge. These included the Winemaker's Federation of Australia (established in 1990), the Cooperative Centre for Viticulture (1991), the Australian Wine Export Council (1992), the Wine Industry National Education and Training Council (1995), the Wine Industry Information Service (1998), etc.

The new institutions provided overall orientation for the cluster's export strategy and created platforms for cooperation among cluster participants on issues such as quality standards, research, training, and export promotion. Soon after, the growth rate of Australian wine exports increased significantly. But it is extremely important to note that the new institutions worked because they drew efficiently on the capital that had been built through old institutions over decades. Other examples of the importance of the long-term development of an institutional base are found in successful clusters, such as Acoplásticos Colombia and Fundación Chile.

## Tool 10: Monitoring and Evaluation: The P.A.I.D. Framework (Progress, Action, Investment, and Delivered Results)

### Objective

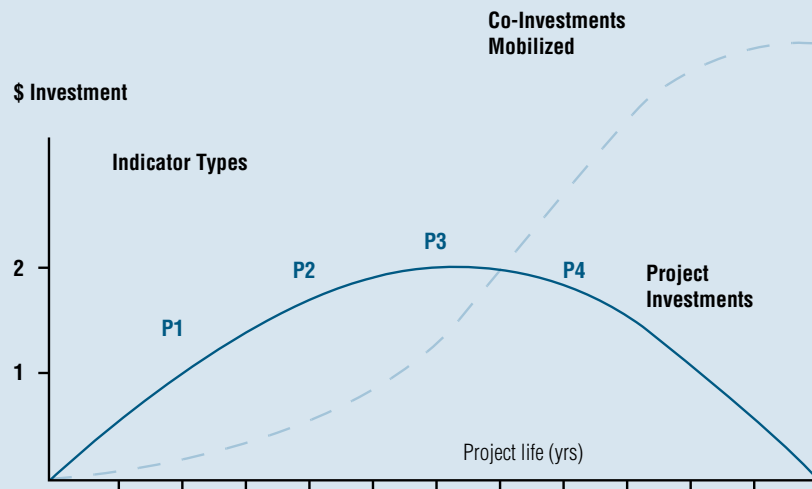
To evaluate the progress of a cluster initiative, including its actions, investments, finances, ownership and hence sustainability.

### Key caveats

Real results of cluster initiatives may not mature for a long time. Establishing the appropriate balance between flexibility and boundary-setting is important.

### P.A.I.D. Framework for Monitoring & Evaluation

Indicators Change Over Time During the Life Cycle of a Project



Note: P1: process indicators; P2: action indicators; P3: investment indicators; P4: results indicators

The horizontal or x-axis represents the lifespan of a cluster intervention. The vertical axis represents the level of investment during its life. The solid curve shows donor/ government investment. This increases

during the intervention's early stages through implementation and declines as the implementation winds down. As the intervention progresses, ideally other projects and investments will be initiated with increasing private sector co-investments (as represented by the dotted line). The indicators are classified as follows:

- **Process Indicators (P1)** are used to track the first stage of the initiative's development, including the identification of cluster leaders, and beginnings of building a community of stakeholders.
- **Action Indicators (P2)** track cluster analyses and the development of strategies to help clusters improve competitiveness.
- **Investment Indicators (P3)** track investments and co-investments made during the initiative's implementation. Co-investments begin modestly but advance with the project.
- **Delivered Results Indicators (P4)** track measurable results of the cluster initiative. These can include increases in exports, revenues, employment, wages, industry profitability, and the establishment of new enterprises.

### Tool Application Example

The Pakistan Initiative for Strategic Development and Competitiveness is a USAID-funded project to support self-selected Pakistani industries in developing and implementing competitiveness strategies and to institute a sustainable mechanism for effective public-private dialogue. Implemented in cooperation with Pakistan's Small Enterprise Development Agency (SMEDA) the project included two sectors—dairy and gems/jewelry.

#### Key: Project Components

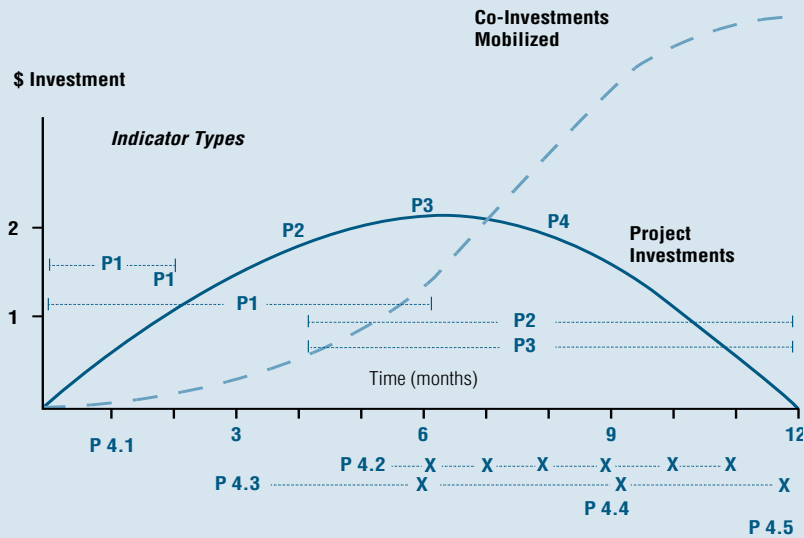
- P1: Start-up, Industry Research, Formation of Sector Working Group
- P2: Cluster Diagnostic and Strategy Development
- P3: Implementation of Strategic Initiatives
- P4: Results-based Performance Tracking: (4.1) Submission of an inception report with a performance tracking plan; (4.2) Reviews of cluster initiatives; (4.3) Submission of quarterly reports to SMEDA; (4.4) Interim completion report; (4.5) Submission of a project performance report

## Tool Application Example (continued)

### P1 – Process Indicators

**(month 1–3):** During the initial phase of monitoring and evaluation, stakeholders measured process by establishing leadership, encouraging cooperation, and establishing commitments. Process indicators used in this phase by the SMEDA–JAA team included the following:

- Analytical activities
- Competitiveness presentations
- Signed Memoranda of Understanding
- Agreed schedules and levels of participation by the cluster leadership and strategic working groups.



Source: California Wine Institute Internet Search, California State Legislature. Based on research by MBA 1997 students M. Alexander, R. Arney, M. Black Frost, and A. Shivanunda.

**P2 – Action Implementation Indicators (month 4 – completion):** After action plans are identified, plans for implementation are made and became part of SMEDA's operational program. These lay the ground for investments to be made. Action indicators in this phase:

- Technical assistance for specific clusters
- Completion of strategies for each cluster
- Completion of action plans with responsibility split among cluster representatives

**P3 – Investment Indicators (month 7 to completion):** As the project progresses, the initiative begins to generate investment from the clusters that are greater than the initial investment made to begin the project. Investments are modest to begin but may increase substantially with time. Investment indicators include:

- Private investments in projects
- Investment in retained earnings earned by cluster projects
- Venture capital invested in areas such as fee-for-service, private sector financing, or university research

**P4 – Delivered Results, (month 10 to completion):** The last indicator is to track delivered results directly attributed to the project. Pakistan focused on productivity. Thus, indicators measured increases in value added, export revenues, employment, wages, tax revenue, and enterprise growth.

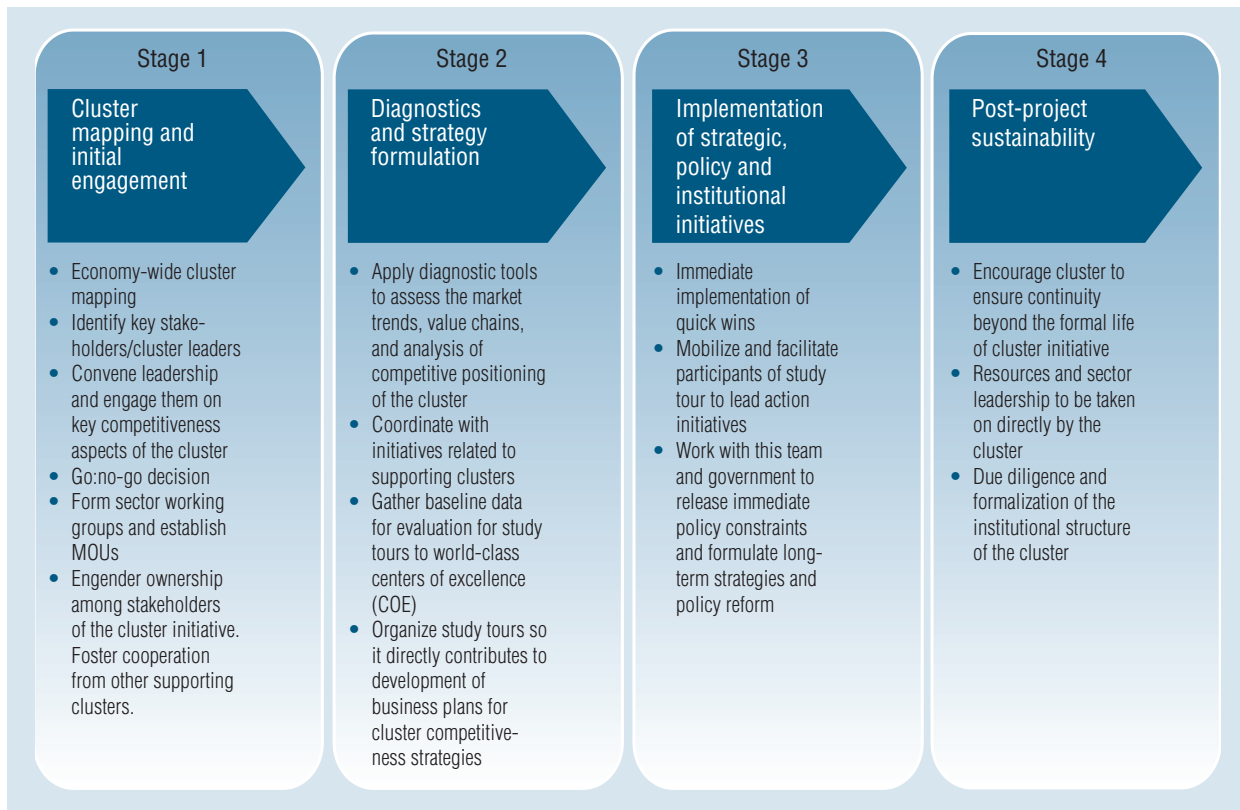


## CHAPTER 3 A BROAD PROCESS TO DEVELOP A CLUSTER INITIATIVE

Facilitation is key to a cluster-initiative process.

Cluster initiatives will be relevant only where minimum conditions of macroeconomic and physical stability, hard and soft infrastructure for doing business, and a basic institutional system for supply-side functions have been met.

Cluster initiatives around the world show that the crucial element of initiative development is the creation of a platform for meaningful dialogue within the cluster, to develop business strategies, and with the public sector, to discuss policy changes and possibly financial support. Success will require increasing the involvement of the cluster's support



entities and greater portions of its value chain. The dialogues will result in a common strategy for competitiveness that is owned by the private sector and supported by the government. In addition, the tone will be set for other collective tasks and analyses to be undertaken throughout an initiative's development. During the process, a facilitator or facilitators will be enormously helpful. Besides having an excellent facilitator in cluster development team, the role of an industry expert is apparent. While the job of the facilitator involves assisting participants identify key challenges and opportunities, that of the industry expert is to validate or refute the hunches of businessmen through analyses. These two are the building blocks that enable clusters to formulate a systematic strategy for both a policy dialogue and the implementation of follow-up tasks.

## Stage 1: Cluster Mapping and Initial Competitiveness Engagement

### Objective

(i) Establish cluster-economy embeddedness; (ii) bring key actors within clusters together around shared interests; (iii) test appropriateness of longer-term project.

### Milestone

MOUs signed between selected clusters and government.

### Key Decision

Continue or not with long-term cluster competitiveness initiative.

One should start  
with cluster-  
mapping...

The first stage involves engaging cluster and policy leaders to produce an economy-wide map that shows cluster locations and their linkages with the wider economy. The aim is to understand actual cluster behavior. In countries where data are available at the cluster, subcluster and firm levels, actual linkages within and between clusters are tracked through detailed analyses of their sourcing and selling behaviors as well as their business alliances. This analysis then allows the mapping of clusters across geographies indicating the locations and perimeters



of the given clusters. It is important to note, however, that such detailed data is often not easily found in several developing countries.

...although there may be practical challenges...

In practice, the initial stage of a cluster initiative involves bringing on board cluster leaders and policymakers to establish the concept's validity before deciding on which clusters to work with. Ideally, discussions with policymakers should be based on a rigorous cluster mapping exercise as described above. However, the fact that adequate and accurate data often are unavailable must be taken into account. This may make technical analyses rather arbitrary and subsequent policy dialogue less informed, which may result in major failings during a cluster initiative process. An in-depth evaluation of cluster competitiveness initiatives by USAID (2003) showed that pre-selection of clusters in most developing countries failed because it tended to create a poor psychological contract whereby cluster leaders believed they were receiving a mandated entitlement. Cluster specialists have partially overcome the data problem by requiring clusters to prove their worthiness for engagement by demonstrating their commitment through the investment of time, ideas, and most importantly, through their willingness to bear the initial costs of developing an initiative.

...thus giving rise to the idea of self-selection.

Therefore, a key method of cluster selection is **self-selection**, which is one of the outcomes of the initial cluster engagement. Thus, it is important to include several key clusters in the long list of candidates for inclusion in the initiative if only through descriptive statistics. This long list of clusters is usually the result of analyzing the economy's major industries, including the major export industries. Especially important are industries that are key to a specific region and those that are growing quickly even if they are still small. This approach limits the danger of trying to create clusters where none exists.

Not all cluster initiatives use self-selection. Sometimes, the government will identify a long list of clusters to work with and have consultants shorten the list. While doing this, it is important that consultants take into account the cluster leaders' enthusiasm for and commitment to

Local ownership is a must...

...and local partnership should be ensured in leadership, analyses and implementation...

...so that clusters do not focus on government favors but form a genuine collaboration for competitiveness.

the possibility of developing a cluster initiative. Leaders who are unenthusiastic are unlikely to participate fully in the development process and their clusters are unlikely to benefit significantly.

An important contribution donors can make at this stage is the provision of expertise. The initial staffing for Stage 1 normally involves a seasoned facilitator and an industry expert with sharp analytical skills and in-depth knowledge on the sector. A local operations and research support team is important not only to assist the facilitators but also to prepare for handover of the cluster upon completion of the life of the cluster initiative. In addition to this, it is important that a gifted and respected local co-presenter be made part of the cluster initiative process from the very outset in order to provide local insights and credibility. This is a lean team to prepare and conduct initial presentations, contract the local team, and manage their preparation of initial economy-wide and cluster analyses.

The local sponsors of the cluster initiative are responsible for convening cluster and government leaders. If this has not happened, the initial team will have to develop its own cluster and leadership maps and invest the time to ensure that leadership meetings are properly convened. The initial team also selects and contracts with a local counterpart that can help benchmark the current position of local industry clusters relative to their counterparts in other countries. An intensive round of compelling and relevant presentations are made by knowledgeable presenters using participatory methods to cluster leaders, two or more government ministries, various business associations, the economic press, economic and business faculties, and civic associations. Each presentation is tailored to the specific interests of the audience but shares the common theme of defining competitiveness, benchmarking the country's current position, demonstrating how competitiveness is achieved, providing practical examples from their industry in other countries, and using highly interactive and participatory techniques to elicit responses and to test relevance and receptivity.

## A checklist for engaging clusters

### To be led by cluster specialists in coordination with donors and policymakers:

- An economy-wide cluster mapping
- Competitiveness and benchmarking materials tailored to the country and to the industries that will be convened (month 1);
- Leadership in each industry cluster convened (month 2);
- Intense round of compelling competitiveness presentations made to a diverse set of industry clusters, more than two government ministries and several universities (month 2);
- Initial diagnostic work conducted with a selected subset of industries showing the greatest interest and commitment (month 3-4);
- Presentation of strategy, strategic initiatives and policy initiatives to country leaders and testing of relevance and receptivity for long-term initiative (month 4);

### Go → No Go Decision:

- A. No-Go → Go on to next cluster candidate (month 4)
- B. Go: Initiate an intertwined process of analytical and operational initiatives on the cluster (below)
- Implementation of strategic initiatives, policy dialogue leading to reforms, investments undertaken, results being recorded (2-5 years);
  - Monitoring and evaluation of results (ongoing);
  - Sustainability of cluster initiatives continues and mechanism for reporting results achieved after official project ending (post-project).

Facilitators must make it clear that only a handful of clusters will be included in the initiative; inclusion is not guaranteed. Clusters will largely select themselves by meeting certain requirements, including:

- convening a critical mass of the entities comprising the cluster
- agreement not to focus on subsidies and protectionism
- formal commitment to invest time
- agreement to invest financial resources or to line up financing for strategic initiatives that prove to have strong positive returns

### Questions to ask during the MOU signing meeting:

- What should be the objective of the cluster process?
- What are the 4–5 things that we are agreeing to?
- [e.g., committing to attend regular meetings at agreed intervals, committed to inclusiveness or agreeing to participation parameters during the cluster process, initial and on-going financing arrangements (how activities/initiatives should be funded), appointing a cluster champion]
- What is the formal and informal credibility of the entity signing the agreement?

Cluster strategies will evolve through interactions and analyses...

While it is helpful for the national government to indicate the importance of a cluster initiative, it is equally important that cluster leaders not come to the table primarily to gain special government favors. That would be a dynamic completely contrary to the objective—to enable and empower business leaders to improve their results and reposition their industries by taking responsibility for their own strategic initiatives. Once clusters have been selected, one can proceed with cluster engagement, which is the subject of the next step.

Once clusters have been selected for the initiative, the second stage involves a strong analytical and process agenda. The initial analysis in-

## Stage 2: Diagnostics and Strategy Formulation

### Process Objective

(i) Build cooperation and raise strategic sights; (ii) apply industry diagnostics and produce sound strategy

### Milestone

Formal presentation of industry strategies to cluster constituents

### Key Decision

Cluster representatives must formally sign off

...and mature through meaningful collaborations.

cludes tools described in Chapter 2 (product and market segmentation, SWOT, GAP, Porter's Five Forces analyses, value chain analysis, market trend analysis, relative competitive positioning, and possibly others). In general, tools focusing on team-building (Tools 2-5) should generally precede thorough analyses (Tools 6-8); yet there is no strict linearity in application of the cluster tools. If anything, what differentiates a cluster approach to competitiveness from several other approaches is that team-building, industry analyses, and strategy formulation are intertwined and overlapped with each other. Each of the elements provides the building block for the other two throughout the entire lifespan of a cluster initiative.

What kind of competitiveness strategies should a given cluster initiative focus on is a question that should evolve from the cluster dialogues and analyses, and should be fully owned by the cluster members. Experience shows that these are largely about creating foundation of knowledge and innovations, or strengthening inter-cluster or cluster-economy linkages, promotions, reform of policies and public institutions, etc. Although there is no strict recipe as to what kinds of strategies may be identified by a given cluster and how they evolve over time, a broader process of strategy formulation can be described in three phases.

**The Analytical Agenda.** This consists of industry and policy analyses as well as the formulation of technical assistance and strategic actions. Here is where most of the tools described in this toolkit are applied. The facilitator, who conducted the initial diagnostics in coordination with the public sector (government and/or donors), plays an important role in the analytical agenda phase, but the process is much more cooperative and should ensure active involvement of cluster members and policy specialists through cluster workgroups and in-depth interviews. Clusters should play an increasing role in determining the analytical agenda, with the facilitator serving as a resource.

**Industry Diagnostics.** Once a memorandum of understanding is signed, the facilitator will apply the diagnostic tools described in Chapter 2. A leading global expert from the industry in question may provide technical assistance. The combination of excellent facilitation skills, strategic thinking, and industry expertise is powerful, and under normal conditions elicits a high level of counterpart commitment from the clusters. Early cluster initiatives in many countries took several months to analyze the clusters. However, in later initiatives the time needed for diagnostics was reduced substantially. Approximately 5–6 cluster sessions and detailed consultations with policymakers and industry experts may be held to apply the diagnostics. The results are compiled and the conclusions are presented to stakeholders. The conclusions are then summarized succinctly, referring to the supporting analyses.

**Study Tours and Expert Visits.** While the diagnostic tools are being applied, arrangements can be made for key cluster members to go on study tours to target markets or countries where centers of excellence are located and which represent leading clusters in their industries. These study tours often take place in the context of major international industry conferences and conventions. The Pakistani gems and jewelry industry, for example, visited the exclusive Magic Show in Las Vegas and the more accessible regional gems and jewelry convention in Bangkok, Thailand, making immediate sales in the latter. The facilitator and industry expert often prepare cluster participants to take maximum advantage of these trade shows, helping them make appointments in advance with important industry contacts and arranging site visits in the host country.

**Strategy Formulation.** With the application of each successive diagnostic tool, a strategy to improve cluster competitiveness takes shape. Tools such as market trend analysis and competitive positioning are particularly relevant to informing stakeholders regarding strategic decisions. The strategy begins with an articulation of a vision for the cluster, elaboration of challenging and quantifiable goals, the identification of

strategic initiatives to reach those goals, and the pinpointing of policy and institutional constraints that impede the strategy's implementation. Cluster leaders formally sign the strategy document to indicate that it represents the clusters' consensus. This milestone is useful although the strategy is a living document that will evolve over time.

### Possible roles of policymakers and/or donors throughout the development of a cluster initiative

- **Identifying sources of financing** to kick-start cluster initiatives and meet immediate costs, such as hiring a facilitator, cluster meetings, etc.
- **Selection of Facilitators.** Once sources of finance have been identified, the government plays a critical role in selecting the cluster team. The sponsoring government agency and the contractor also agree on project objectives and a monitoring and evaluation framework, but leave room for specific metrics to be defined by cluster members. When cluster projects are envisaged as part of broader policy reform program, it is advisable to have a policy specialist work within the core cluster implementation team. The policy specialist should pay special attention to intra- and inter-cluster discussions to note policy implications that may arise.
- **Cluster Engagement and Selection.** The sponsoring government agency works with facilitators to select the long list of clusters to be considered and then the short list of clusters to be included in the initiative.
- **Diagnostics and Strategy Development.** The government may or may not choose to participate in all cluster events but should be present at key milestones, such as the initial presentations, the first cluster meeting following the signing of a memorandum of agreement, the formal acceptance of the industry strategy, and other meetings as may be deemed useful.
- **Implementation.** The government may assist in brainstorming on sources of finance to implement strategic initiatives. The government can play a key role in facilitating the participation of donors, who often have access to outside financing and technical expertise.

## Stage 3: Implementation of Strategic, Policy, and Institutional Initiatives

### Process Objective

(i) Implement strategic projects, mobilize investment, and improve the business environment; (ii) mobilize cluster leaders to initiate productive public-private dialogues for implementation of policy and strategic initiatives.

### Milestone

Strategic and policy initiatives being implemented

### Key Decision

Choice of investment funding sources

The combined inputs of local and international industry experts, the competitiveness strategy expert, visits to international centers of excellence, and trade show visits will have led to a mix of 5–15 policy and strategic initiatives. These will vary by industry cluster and are unique to their specific situation.

### 1. Strategic Initiatives

These are activities industrialists within the clusters undertake on their own with the support of facilitators and/or technical experts. They may include a wide range of activities, such as those that are demand related, focusing on market and consumer intelligence (e.g., the Mongolian tourism which sought to attract Japanese tourists), on producer linkages (e.g., the Thai animation cluster which brought together fledgling software animators and gave them a successful platform—Thai Anima Exposition), on market diversification (e.g., the Sri Lankan tourism cluster which refilled hotel beds by focusing on the Indian market after a terrorist attack deterred European and US arrivals), or on branding (e.g., the Sri Lankan sapphire cluster), e-commerce (e.g., the Romanian

Initiatives could be about supply development, diversification, cost reduction...



tourism/b&b cluster). Or they may be product-related with a focus on private sector standards and certifications (e.g., Thai agricultural cluster), cost reduction or product diversification. They may be related to innovation with a focus on technology acquisition, R&D, and workforce development. Or they may focus on the efficiency of the supply chain or investment and export promotion.

## 2. Policy Initiatives

While strategic initiatives can be undertaken by the private sector alone, policy initiatives ultimately require decision-making by the public sector. A cluster initiative's promoters should wait until the preparatory phase is complete before engaging outside government agencies to discuss issues related to macroeconomic and trade policies, business regulatory constraints, investments in infrastructure and human resources, etc. The role of a cluster initiative in this is to move away from old models that assign the entire responsibility to either the government or the private sector; instead, the initiative should catalyze a process whereby context-specific, location-specific, and issue-specific collaborations emerge between the public and private sectors to address policy bottlenecks more effectively. A carefully thought out public-private dialogue should be embedded in the initiative development process from the outset, making policy formulation from industry insights a natural and organic outcome.

...or about policy reforms...

...in areas of clusters' concerns.

Cluster leaders typically will seek to turn the discussion to something of immediate advantage to them, which often means enumerating policy and institutional shortcomings and blaming the government for the state of their industry. Cluster competitiveness facilitators should expect this and be capable of developing a psychological contract with cluster leaders that the focus of discussion will be on strategically repositioning their industry, not complaining about the government. A good facilitator will need sound and rigorous policy and business analyses to diagnose the situation accurately and offer meaningful leadership in

policy dialogues. These will add mileage to the spirit of public-private-partnership cluster projects often foster.

A good case in point is the Pakistan dairy cluster. Even at an early stage of cluster development, the members saw the need to correct the national trade policy bias against imports of small-scale dairy chillers. While the large-scale chillers enjoyed duty exemption, small-scale chillers carried a tariff approaching 50 per cent of the ad-valorem value. The cluster project helped broker a dialogue between the private sector and the government that resulted in an immediate elimination of these duties. Within months, the dissemination of dairy chillers in remote villages increased substantially, doubling rural milk collection rates. Another case is the Sri Lankan tourism industry. Having successfully implemented a business strategy to attract Indian tourists to offset European and US cancellations due to a terrorist attack, the Sri Lanka tourism cluster persuaded the government to agree to an open skies policy that widened the scope for tourism substantially.

There are other examples. The Pakistani marble and granite quarrying industry created a model quarrying facility as a private-public partnership to teach specialized techniques to recover larger slabs of marble instead of using indiscriminate blasting techniques. The Croatian furniture cluster enhanced the effectiveness of export promotions by developing design competitions conducted among manufacturers to select the best designs to display at international expositions. This private-sector-led selection process was crucial to releasing the export promotion agency from bureaucratic lethargy.

### **3. Institutional Initiatives**

At times, policy formulation or change may not be sufficient to overcome industry bottlenecks, which can require long-term processes or even the establishment of new institutions to develop mechanisms for new policy implementation. A good example is Fundacion Chile, which

Or, they may be about developing institutions to work on innovation and technology...

is a key institution enabling technology transfers to Chile's renewable natural resource clusters. It developed over three decades through a complex and incremental collaboration between government at various levels, Chileans abroad, R&D institutions, and private firms. Fundacion Chile started out as a specialized service provider in 1976. Between 1982-85, it took on responsibility for incubating companies with new technologies to nurture a demonstration effect. Since 1986 it has evolved as a self-sufficient organization by weaning itself off public funding under the guidance of the McKinsey consultancy.

Another example is the case of labor training in Lesotho's apparel industry. The government started out by providing stand-alone training of apparel machinists, which was formidably costly and utterly unsustainable. Over 80 per cent of the graduates remained unemployed while nearby factories continued to suffer from a shortage of trained machinists. Factories complained that the graduates did not meet their needs and hence were unproductive. A study showed that 69 per cent of Lesotho's businessmen were willing to pay for training if it addressed their needs. (DFID, 2002) A cluster model was used, first to promote networking among factory owners, and then eventually to forge a public-private-dialogue to develop a roster of training experts and a collection of training modules that met international standards. Once the public sector established the infrastructure and training schools, factory owners paid for training modules and sessions as per their individual needs. On one hand, this mechanism addressed the scarcity of skilled manpower; on the other, it solved the problem of the low employability of graduates from the government's training institutes. Today, Lesotho's apparel exports constitute close to 40 per cent of the African total. (World Bank, 2008)

...and a lot depends on where investments come from.

For donors, this stage is also an opportunity to capture important cluster- and industry-specific insights for subsequent formulation of country assistance strategies. For the World Bank, this could involve incorporation of critical industrial insights into operational lending activities, as well as coordinating with country dialogue exercises, such as

## Mobilizing Co-Investments for financing the initiatives

Strategic and institutional initiatives require varying levels of investment. These are often identified in the later stages of cluster engagement when the project team works with cluster stakeholders to develop business plans and financing proposals. Depending on whether the proposed initiatives are for building public or private goods for competitiveness, financing sources may vary:

- **Commercial bank financing:** This is a market-based solution. Bank officers who participated in the cluster process (such as through the finance workgroups) may be persuaded to offer favorable terms for the creation of cluster products and services;
- **Equity financing:** Companies, either individually or through joint ventures, may invest their own funds in implementing a strategic initiative. In Sri Lanka, several companies created a joint venture to establish the first eco-tourism lodge as a way of sharing risk and learning together about this niche of the market. This includes co-financing by cluster members or through an outside investor, based purely on projected market returns;
- **Development bank financing:** Development banks are not only able to provide financing at below-market rates, but can also serve as financing wholesalers by mobilizing other private and non-private banks;
- **Industry Cess:** This can be a voluntary check-off system such as with the US Soybean Association, or a cess on international telephone calls by hotels in the tourism industry as was developed in the case of Dominican Republic.
- **Voluntary industry contributions:** Many industry clusters have found ways to raise funds among themselves to sponsor strategic initiatives that have evident and broad benefits for the cluster;
- **Venture capital investment:** This is particularly applicable in high tech sectors in more advanced countries, as a form of innovative private sector financing. Angel investment communities can also be involved to provide seed capital. In Sri Lanka, a venture capital group combined with industry to fund the development of tea color separator technology by University of Moratuwa engineers;
- **Attraction of new investment:** This can help fill gaps in the value chain. This requires coordination between the industry and the country's foreign direct investment (FDI). It can be especially relevant in the apparel industry, where button or label makers may be needed to round out the cluster and improve turn-around-time and logistics.
- **Government investment:** When public goods are involved, such as supporting infrastructure or specialized training, seeking government investment may be appropriate.

## Stage 4: Post-Initiative Sustainability

### Process Objective

(i) Cluster undertakes post-initiative projects; (ii) continuation of long-run investments.

### Milestones

Cluster organization continues after the intervention.

### Key Decision

Choice of organizational modality.

Successful cluster initiatives will last beyond the project lifespan...

...in various forms.

Policy Notes and Country Assistance Strategies. It is important to build on the momentum after the initial policy dialogue takes place, so short-, medium-, and long-term assistance instruments need to be carefully considered and sequenced. This includes allowing the cluster to come up with its own financing solutions (See box).

When cluster initiatives are successful, participants tend to explore organizational modalities to continue operations. They may decide to establish a formal organization to make legal representations or undertake expenditures. This is not a decision that the outside funding agent or contractor should make. Indeed, the reason for having an informal cluster organization is not to compete with existing industry associations but to involve all of them if they are active.

It is very much in the interest of a cluster initiative's sponsor(s) that it continue after the project ends. First, it shows the project concept was valid and participants want to keep it going. Second, the cluster usually wants to inform the initiative's sponsor(s) of the ongoing results—increases in employment, value-added, productivity, exports, etc.—which often reach critical mass after the project has ended. This reporting can be useful for post-project validation, and a little ongoing engagement

with the sponsor can catalyze additional strategic and policy initiatives. The cluster can also be enlisted to support other economic reform and policy initiatives in which the sponsor may be involved.

A cluster's formal organization can take various forms:

- **Non-profit organization**, which has the benefit of not being taxed and projects the image of service to the cluster, the government, and the broader public, while staying focused on cluster activities.
- **Industry association**, if the interests of some cluster components (e.g., farmers or exporters) can be balanced with interests of other cluster components (e.g., technicians and other service providers)
- **Corporation**, when the cluster needs to receive contributions and make investments. These were formed in Pakistan to receive public and private contributions and invest in initiatives with common benefits. The key challenge with this modality is often the professionalism of the management, especially when government funding is involved.

During the latter half of a project, it is advisable to provide organization, legal, and tax specialists to the cluster initiative team and to focus on the legal and organizational modalities for post-initiative operations. The initiative will have paid the costs of the project coordinator, industry experts, facilitator, and policy specialists providing technical assistance. The cluster will have to find a way to absorb these costs if it decides to continue at the same level of operations.

## CHAPTER 4 POLICY IMPLICATIONS FOR COMPETITIVENESS

Competitiveness is  
complex...

...but micro and  
macro issues should  
be differentiated and  
addressed.

As discussed in the previous chapters, cluster initiatives could be effective tools for countries to improve their competitiveness in international trade. Clusters may evolve naturally over time to exploit economic benefits of location-specific externalities and synergies. Specific cluster initiatives can be developed to draw from and expedite the spillovers influencing economic performance within and across clusters. But competitiveness is not a quick fix; stakeholders will eventually agree that it is a complex challenge and no single policy or grand step can be a panacea.

This chapter explores some of the major policy and institutional determinants of export competitiveness. It adopts an analytical framework that distinguishes between micro-level business strategies that dictate the extent to which an economy can gain competitiveness on the one hand and the broader macro-level issues which must be addressed on the other hand. Competitiveness is largely determined by the productivity with which a nation uses its human and natural resources. It is not a static concept but dynamic especially in the context of pervasive globalization, which has resulted in a dramatic rise in technological absorption, leading to companies' increased sophistication and markets' unprecedented global integration. Competition is no longer restricted to the traditional fronts of cost and price but increasingly plays out on multiple fronts: connectivity, standards and certifications, quality and innovation, exploitation of cultural and geographic endowments, success of branding, etc. Because these new fronts are constantly changing and reshaping, a competitiveness strategy should be dynamic and should simultaneously engage diverse institutions and agents that are neither wholly private nor wholly public and that are linked at various levels on various dimensions.

A competitiveness strategy should start from the basic. It is impossible to work towards competitiveness until there is a sound incentive

A sound incentive regime and infrastructure are essential...

regime in place to ensure that resources flow to the industrial sectors that have the best comparative advantage, and within those, to the firms that are economically most efficient. The incentive regime should reward good performance such as high productivity and large positive externalities, and punish bad performance such as rent seeking. If such a regime is not in place already, it should be the starting point of any discussion on competitiveness. A competitiveness strategy should not shy away from first generation economic reforms such as deregulation of domestic markets, removal of explicit and implicit trade barriers, ending distortions in exchange rates and taxation, and development of a sound property rights regime, etc.

### Core Policy Framework for Competitiveness

#### Services and Costs

Energy, telecommunications, customs services, transport and logistics, specialized skills and business services.

#### An Economic Incentive Regime

Import and export tariffs, exchange rate systems, factor market and tax policies.

#### Pro-active Policies and Institutions

Export and investment promotion agencies, standards bodies, agencies to support innovation and R&D, cluster facilitation, agencies to help skills transfer.

Experience from around the world has shown that formulation of macroeconomic policies alone may not be sufficient to trigger and sustain improvements in competitiveness; attention also should be given to



...but so are supply-side issues.

how they are translated into the operations of firms and markets. Firms that have to pay more than their competitors for energy, telecommunications, customs services, transport and logistics, finance, specialized skills and business services, and overall security will find it hard to compete in both the domestic and overseas markets. Competition and regulatory oversight in these services industries lie at the heart of the policy challenge.

Beyond macro-economic, infrastructure and the investment climate, competitiveness is about the way how production and exchange of goods and services can be made more advanced. Firm sophistication lies at the heart of competitiveness because the firm is the level at which wealth is created and competition occurs. But firms' productivity is inextricably interknit with the environment in which they operate. This is what makes the improvement of competitiveness dependent on the government and other societal institutions. A competitiveness framework should focus on addressing of any government and market failures that limit access to global and local public goods necessary for firms to function effectively. Within this, specific attention may need to be given to public goods such as export and investment promotion agencies, standards bodies, agencies that support innovation, R&D, etc.

### **1. A supplementary cluster tool: Porter's Framework on Competitiveness**

Professor Michael Porter's framework on competitiveness lies at the heart of the 10 tools outlined in Chapter 2, and offers an excellent framework through which to identify and sort the diverse issues relating to competitiveness. He sets out guidelines to maximize the success of cluster-based analyses and evaluates the rationale for cluster initiatives. Specifically, the Porter Diamond measures competitiveness in terms of four interrelated areas of: (i) the quality of factor conditions, (ii) the context for firm strategy and rivalry, (iii) the quality of local

The Porter framework organizes these issues well, and lies at the heart of this toolkit.

demand conditions, and (iv) the presence of related and supporting industries.

Professor Porter has emphasized that improving a clusters' competitiveness depends on the pace at which firms within the cluster shift from competing on basic and inherited endowments to competing on advantages arising from efficient and distinctive processes and products that contain as much added value as possible. Within firms, such a shift will require innovation of products, processes, and markets, adaptation of new technologies, and new partnerships among productive forces, such as workers, suppliers, service providers, and buyers. Beyond firms, the shift will require parallel changes in the surrounding microeconomic business environment, which will depend on the mobilization of private and public sector actors and institutions. The business environment is well depicted in the Porter Diamond as a complex interplay among the forces of factor and demand conditions, the context for firm strategy and rivalry, and supporting institutions and industries.

## Applying the Porter Diamond to a Cluster Strategy: A Broad Template

### A. Factor (input) conditions:

The efficiency, quality and specialization of the inputs available to firms

- To what extent is the cluster's competitive advantage depended on basic factor conditions, i.e. climate, cost and productivity of land, location, availability of basic inputs, low cost labor?
- To what extent is it based on advanced factor conditions, i.e. human resources such as skilled labor force, physical infrastructure such as efficient transport and logistics, scientific and technological infrastructure, information infrastructure including economic data and corporate disclosure, etc?

### B. Demand conditions

#### The presence of demanding and sophisticated local customers

- How directly is the cluster exposed to the most sophisticated and demanding consumers?
- Do local consumers or buyers anticipate trends in global demand?
- Are there sections of the local market that provide sophisticated feedback signals?
- Do the cluster's foreign buyers send signals or provide feedback to monitor the pulse of change?

### C. Related and supporting industries

- Who coordinates inter-firm activities in the cluster?
- If present, how would you rate the performance of the following institutions? And which among these the institutions are the key reasons behind such performance: industry associations, chambers of commerce, small business associations, export associations, cooperatives, industry boards, standard setting agencies, rating agencies, other institutions?
- Are there competitive and high quality suppliers?
- What is the availability and quality of business services?
- Are there strong ties with research institutions?
- What is the quality of education and training providers?

### D. Context for firm strategy, structure and rivalry

- To what extent are firms investing in new forms of knowledge, innovation and R&D?
- To what extent is competition among firms driving the innovation and upgrading process?
- To what extent are firms shielded from outside competition?
- To what extent do the strategies of firms put upgrading front and centre?

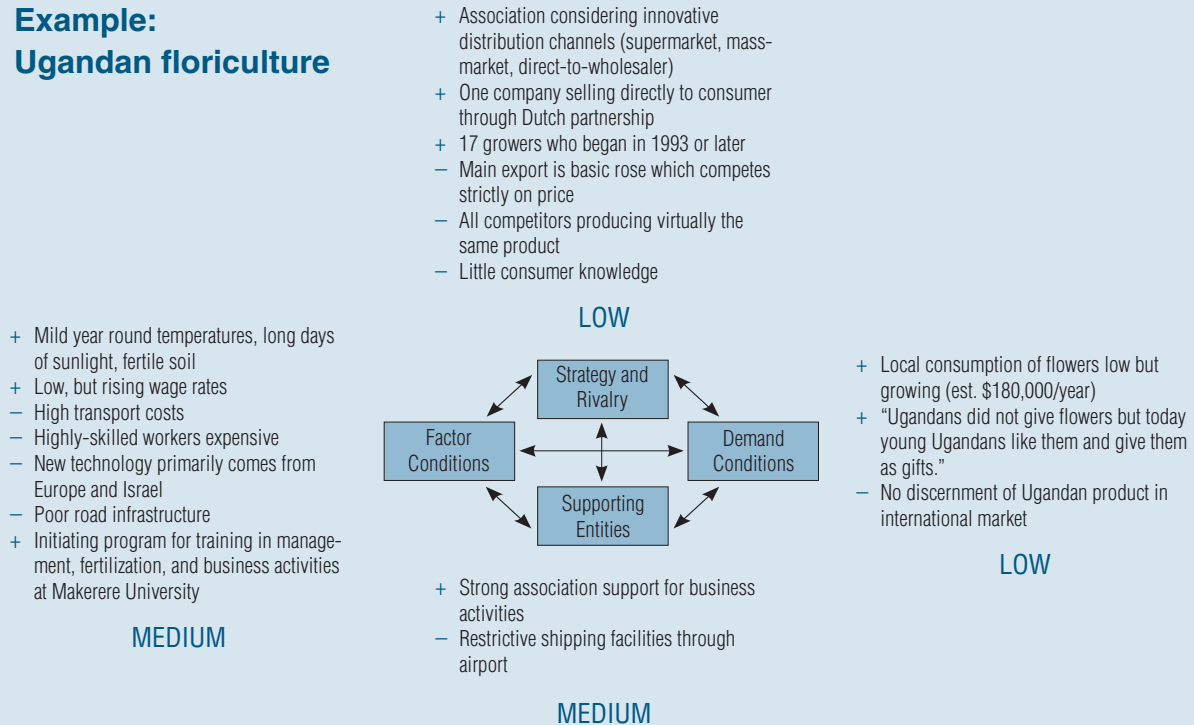
*(continued on next page)*

A Porter Diamond analysis including comparisons with the Dutch cluster (See figures above) showed that although Europe was an important market for Uganda's cut flowers, its competitive position was compromised due particularly to cut-throat competition among Ugandan producers of undifferentiated flowers. Uganda exported US\$25 million of cut flowers—about 40 per cent of its total non-traditional agricul-

## Applying the Porter Diamond to a Cluster Strategy: A Broad Template

(continued)

### Example: Ugandan floriculture



Source: Monitor Company

tural exports but a mere 0.4 per cent of the global floriculture market. Uganda was able to benefit from the Netherlands' experience. Dutch flowers comprised 55 per cent of the global floriculture market; it is a seasoned market characterized by advanced factor conditions, sophisticated demand, and strong within-cluster cooperation mechanisms.

The project pointed to four key issues that needed urgent attention if Uganda's floriculture cluster to strengthen its global competitive position:

## Applying the Porter Diamond to a Cluster Strategy: A Broad Template (continued)

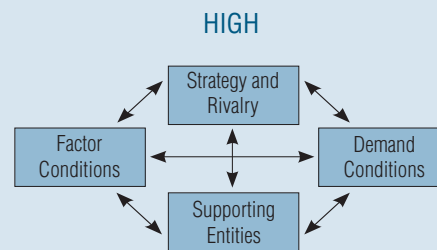
### A Comparator: The Dutch floriculture

- + Favorable proximity to European markets
- + Low transport costs to European markets
- + Gas relatively inexpensive
- + High productivity of workers
- Heated greenhouse cultivation essential; government considering energy levy
- Expensive land
- Fertilizer and pesticide emissions to the soil, air, and water meet increasingly stringent environmental standards
- High labor costs
- Scarcity of labor
- + Excellent roadway and airport network
- + Advanced computer networks to track auction transactions (95% of production goes through auctions)
- + Extensive advanced training courses and research; adequate capital to fund research
- + Many growers have in-house research facilities

HIGH

Source: Monitor Company

- + Heavy domestic rivalry (9,350 cut flower nurseries, 1900 exporters)
- + Technology leaders
- + Differentiated product strategy



- + Logistics coordinated through auction houses; two largest auction houses account for 81% of production
- + High proportion of costs incurred by grower offset by extremely efficient logistics system
- + Research and technology from related sectors, i.e. vegetables
- + Share distribution channels with flower bulb and tree nursery sectors
- + Strong position in breeding and propagation
- + Information and innovation pass quickly through network of sectors

HIGH

- + High located demand—61% of families buy flowers at least once every 4 months
- + Strong local demand for new products

HIGH

1. Although some Ugandan producers started floriculture exports as early as 1993, they had not differentiated their products in the European market. Their main exports were basic sweetheart roses and chrysanthemums. Such undifferentiated products were not only overly dependent on basic factors such as cheap labor, sun, and soil, but also were exposed to volatile pricing.
2. Lack consumer knowledge and the specialized skills necessary for product sophistication was one reason Uganda was trapped in the low-cost flower segment. Compared to the Dutch cluster, acquir-

There will always be more pressing barriers than others in any economy...

ing skilled scientists and managers in Uganda was difficult and expensive.

3. Infrastructure bottlenecks were the second reason why Uganda had not advanced and diversified its products. There was an apparent need for more reliable and less costly services, e.g., transportation to market, shared distribution channels with related industries, and tracking of the delivery system.
  - 4. Knowledge and infrastructure were both giant issues in themselves and could not be solved with a single stroke. However, as was the case with Dutch floriculture, strategic and incremental interventions could be designed to address these issues at a cluster-level. Discussions are already underway in Uganda among private-sector cluster representatives and the government regarding advanced training systems, R&D, and transport networks.

## 2. Cluster initiatives as policy catalysts for competitiveness

Competitiveness in developing countries depends both on microeconomic business environment (e.g. access to capable suppliers and related support industries) as well as the macroeconomic fundamentals (e.g. demand conditions, factor conditions and context for firm strategy and rivalry). One implication of the tools and methodologies presented in the preceding two chapters is that competitiveness initiatives in developing countries require sustained efforts to develop a common platform between the private and public sectors to systematically formulate problems, undertake diagnostics and analyses and design reforms on both micro and macro fronts.

Although economies suffer from myriads of problems, in any given cluster at a particular point in time, a few elements will represent the most pressing barriers to improving competitiveness. This may certainly vary across countries depending on the stage of development they are in. For middle-income countries, the relatively developed infrastructure and the better functioning market suggest that their rivals are

...and priorities  
may vary across  
countries.

A road map does not  
exist...

often the higher income countries and they require additionally sophisticated interventions both in terms of economic policy reforms as well as formulation of firm-level and supply chain strategies.

For lower-income countries, efforts on competitiveness may have to start at a lower level. On the one hand, they may need to start correction of market and government failures in functioning of the factor and demand conditions. On the other hand, it is likely that cluster initiatives themselves may encounter added challenges having to do with the lack of data required for analyses and the basic institutional structures required for effective implementation.

Setting aside country-level differences, however, it would still be a mistake to base any competitiveness strategy on ideological assumptions or narrow notions of zero-sum competitiveness. Situations may arise where macroeconomists are arguing for complete government withdrawal from market activities, and the private sector is lobbying for higher protection and weaker regulation. In such cases, it is important to ensure that cluster initiatives develop a strategic order for policy reforms firmly underpinned by in-depth cluster analyses and sound sector expertise.

A rigorous road map for achieving competitiveness is impossible to draw, and there is no set formula as to what is the role of the public and private sectors in leading competitiveness initiatives. The classical notion that government have imperfect information and hence should not be picking winners is increasingly being complemented with the new realization that the private sector also suffers from imperfect information and externality dilemmas when it comes to creation of public goods. Notwithstanding this, the tools and methodologies presented in this document points to the following principles and policy directions that appear likely to promote progress of clusters and that may be able to guide policy makers.

- **Cluster-specific competition policies** can be the starting point of the initial cluster dialogues where public sector has a clear role.

...but creation of some of the public goods is a necessity for all.

It is generally seen that once organized into clusters, firms have more incentives and ability to improve their individual performances than vertically integrated conglomeration of firms because of the pressure of head-to-head competition within local rivals. Also, compared to industrial policies which tend to be isolationist and economy-wide approaches which tend to be generic, hurdles to competition are often easier to spot at a cluster level, and it is the role of the government to correct them.

- **Specialized inputs and skills** are easier to access and are cheaper when firms are spatially organized in a cluster. Firms may acquire inputs like production components, machinery, and business and training services through vertical integration or formal alliances, but complex bargaining and governance problems can inhibit a firm's flexibility. Instead, when firms are organized in a cluster, they offer a critical mass, which attracts such inputs but makes it possible for firms to engage in informal—and often superior—relationships.
- **Public information and knowledge** of buyer needs, markets, and production mechanisms are more effectively accumulated and disseminated within clusters than the government on its own. The public sector may have a role in developing mechanisms in these areas.
- **Quasi public goods** such as specialized infrastructure, specialized educational programs, trade fairs, FDI attraction, information and technology pools, quality centers, etc, can be better handled by governments at the cluster level than either the macro or sector levels.
- **Clusters as the 'search engines,'** or a filtration process, through which better performing industries, processes and practices, and markets could be singled out from the lesser performing ones. Given the existence of market and government failures, it is advisable that cluster performances are used for developing scrutiny and/or reward mechanisms for policies and institutions to qualify for any public support.

These are some of the critical areas where the public sector has a role in removing binding constraints for competitiveness. These can be



Cluster initiatives help policymakers engage effectively with the private sector...

...scrutinize and fine tune reforms...

...and draw a detailed policy map and implement it meaningfully.

seen at various levels. First, effective cluster initiatives would have engaged private and public sector stakeholders into a joint action group which demonstrate clear ownership of any policy discussions relating to the cluster. Stakeholders may include business leaders, trade associations, entrepreneurs' associations, standards-setting agencies, quality centers, technology networks, etc. Effectiveness of the cluster initiative will in fact be reflected in a strategic diversity of institutions involved within the cluster initiative as well as the cluster's bias toward action.

Second, clusters promote joint business strategies and lead public-private dialogues to scrutinize and fine tune policy reforms. Porter's Diamond analysis can be particularly useful in ascertaining the strategic efficiency of proposed reforms, while the specific technical tools such as value-chain analysis, market-trend analysis, and competitiveness positioning analyses can ascertain operational efficiency of such reforms.

Finally, when led by a competitiveness-oriented leader and underpinned by analytically sound evidence of strategic and operational efficiencies, public-private dialogues generated through a cluster initiative can suggest a detailed policy map that is politically more feasible, while it addresses the most critical constraints and improves communication among stakeholders. It can also provide a platform of legitimacy to implement reforms in a situation where politicians and specific business lobbies have vested interests against the proposed reforms.

The table below shows some of the potential policy and strategic reforms that to evolve from a cluster initiative pursuing competitiveness:

## Possible policy and strategic recommendations from a cluster initiative

	<b>Public Policy Implications</b>	<b>Private Sector Business strategy implications</b>
Cluster-specific	<ul style="list-style-type: none"> <li>• Remove entry/exit barriers in industries related to the cluster.</li> <li>• Remove regulatory burdens that prevent firms from functioning efficiently.</li> <li>• Develop institutions that cater to the collective R&amp;D needs of firms in the cluster.</li> <li>• Develop institutions that offer specialized skills for competitiveness.</li> <li>• One-stop shop for dissemination of public information on products and markets.</li> <li>• Facilitate export promotion and FDI attraction.</li> <li>• Develop provisions for basic provisions such as land, labor, and capital as well as advanced factors such as skilled labor, technology and equipment, faster/cheaper transportation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify new product and market segments and develop business strategies for increased outreach.</li> <li>• Shop floor enhancements of technology and management for higher productivity.</li> <li>• Improve the capacity of specialized input and service providers.</li> <li>• Market research</li> <li>• Promotion of specific products in the local, regional and international markets</li> <li>• Develop semi-private institutions such as business associations, research and advisory centers, knowledge transfer centers, etc.</li> </ul>
Economy-wide	<ul style="list-style-type: none"> <li>• Restructure the incentive regime and set up performance measurement systems as necessary.</li> <li>• Develop basic infrastructure necessary for industries to function.</li> <li>• Develop sound institutions that contribute to the capitalization of natural and socioeconomic endowments.</li> <li>• Develop strong human capital.</li> <li>• Expedite overall regulatory reform.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase private sector investments in infrastructure and services.</li> <li>• Strengthen private sector capacity to smooth and sophisticate the overall supply chain.</li> <li>• Develop strong, competitive institutions for training and R&amp;D.</li> </ul>

## ANNEX 1 ACRONYMS AND ABBREVIATIONS

ASEAN	The Association of Southeast Asian Nations
DFID	UK Department for International Development
EC-TG	Export Competitiveness Thematic Group, The World Bank
FDI	foreign direct investment
FIAS	Foreign Investment Advisory Services, The World Bank
ICT	information communications technology
IFC	International Finance Corporation
ISC	Institute for Strategy and Competitiveness, Harvard Business School
ISO	International Organization for Standardization
IT	information technology
ITC	International Trade Centre
JAA	J.E. Austin Associates Inc.
MOU	mémorandum of understanding
MSME	micro, small and medium enterprises
NTB	non-tariff barriers
NWFP	North West Frontier Province of Pakistan
PAID	process, action, investment, delivery – M&E framework
PISDAC	Initiative for Strategic Development and Competitiveness
SARS	Severe Acute Respiratory Syndrome
SEZs	special economic zones
SME	Small and medium enterprises
SMEDA	Pakistan’s Small Enterprise Development Agency
SWOT	strengths, weaknesses, opportunities and threats analysis
USAID	US Agency for International Development
USDA	US Department of Agriculture
VCA	value chain analysis
WTO	World Trade Organization



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