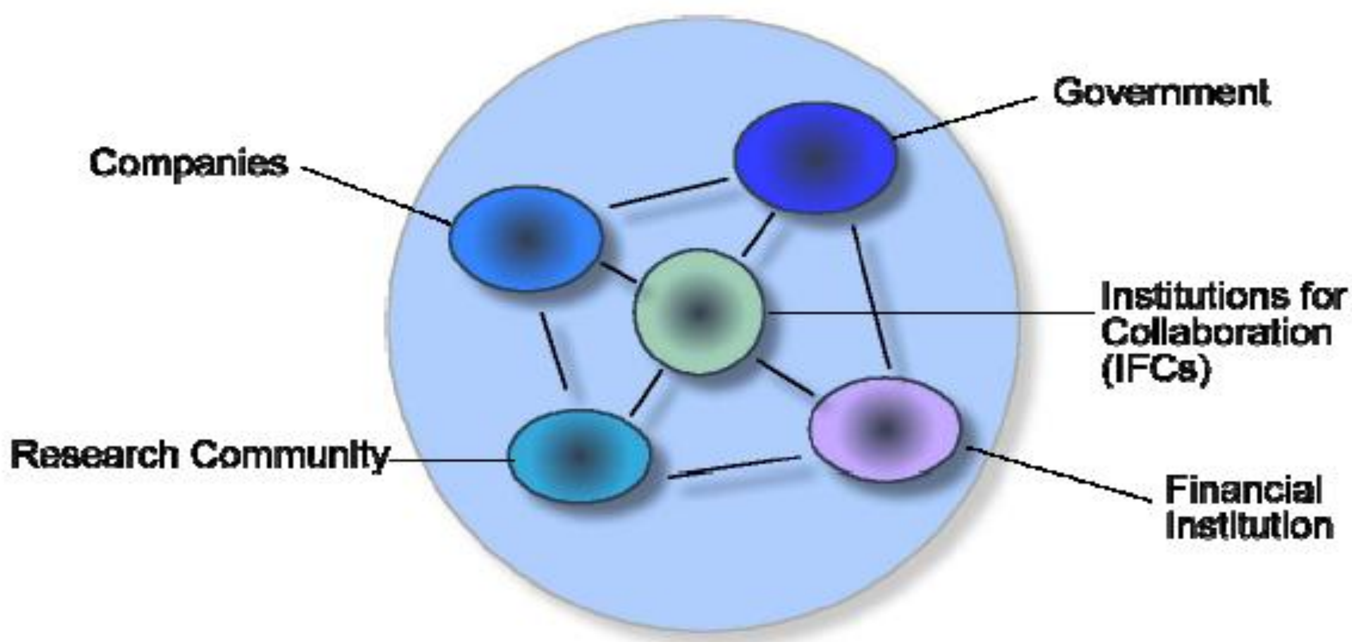
THE CLUSTER APPROACH TO ECONOMIC DEVELOPMENT

TECHNICAL BRIEF NO. 7



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Introduction

The increase in the number and variety of “cluster” and “competitiveness” projects in USAID programs since the late 1990s has been accompanied by considerable confusion about concepts and terms. This paper attempts to clarify cluster theory and summarize research on USAID-supported cluster activities. It explains the different uses of the term competitiveness and distinguishes between cluster initiatives and broader efforts to increase the competitiveness of firms, industries and countries. It suggests some guidelines for cluster development in order to help assure the most appropriate use of cluster development approaches in USAID programs.

Clusters are geographic concentrations of interconnected companies, with linkages to related organizations such as trade associations, government agencies, and research and educational institutions. Related economic activity tends to agglomerate naturally for a variety of reasons, such as the presence of unique natural resources, proximity to markets and reduced transaction costs. Entertainment in Hollywood and fashion in Milan are common examples of clusters. An example of a world-class cluster in a developing country is information technology in Bangalore, India.

Clustering of economic activity has been observed for over a century. In his 1890 book *Principles of Economics,* economist Alfred Marshall noted the positive spillover effects that occur when related economic activity co-locates. “Agglomeration” economies have been recognized by economists since at least that time. For the hundred years after Marshall’s book, research on clusters was dominated by economic geographers studying the formation and growth of cities. In 1990, Harvard Professor Michael Porter brought the cluster concept into mainstream discussions of business strategy and economic development with his extensive study of clusters, *The Competitive Advantage of Nations*.

The existence of clusters is well accepted, but the ability to influence their formation and growth through purposeful action remains controversial. There are indications that cluster development efforts may have positive economic impacts in places like Scandinavia and the United States,[1] but there has not been sufficient research conducted to make this determination in developing countries, where clusters are at a weaker starting point. Anecdotal evidence indicates that it is possible to facilitate successful clusters in the developing world,[2] but questions remain about whether these cases are models that can be followed or if they are simply the result of a coincidence of fortunate conditions. As there has been no conclusive evidence yet that cluster approaches do or do *not* work, cluster development remains an option (albeit still experimental) for stimulating economic growth in developing countries. Whether it is the best approach in any particular circumstance requires full consideration of alternatives such as macroeconomic reforms, business climate improvements, and financial sector development, among others.

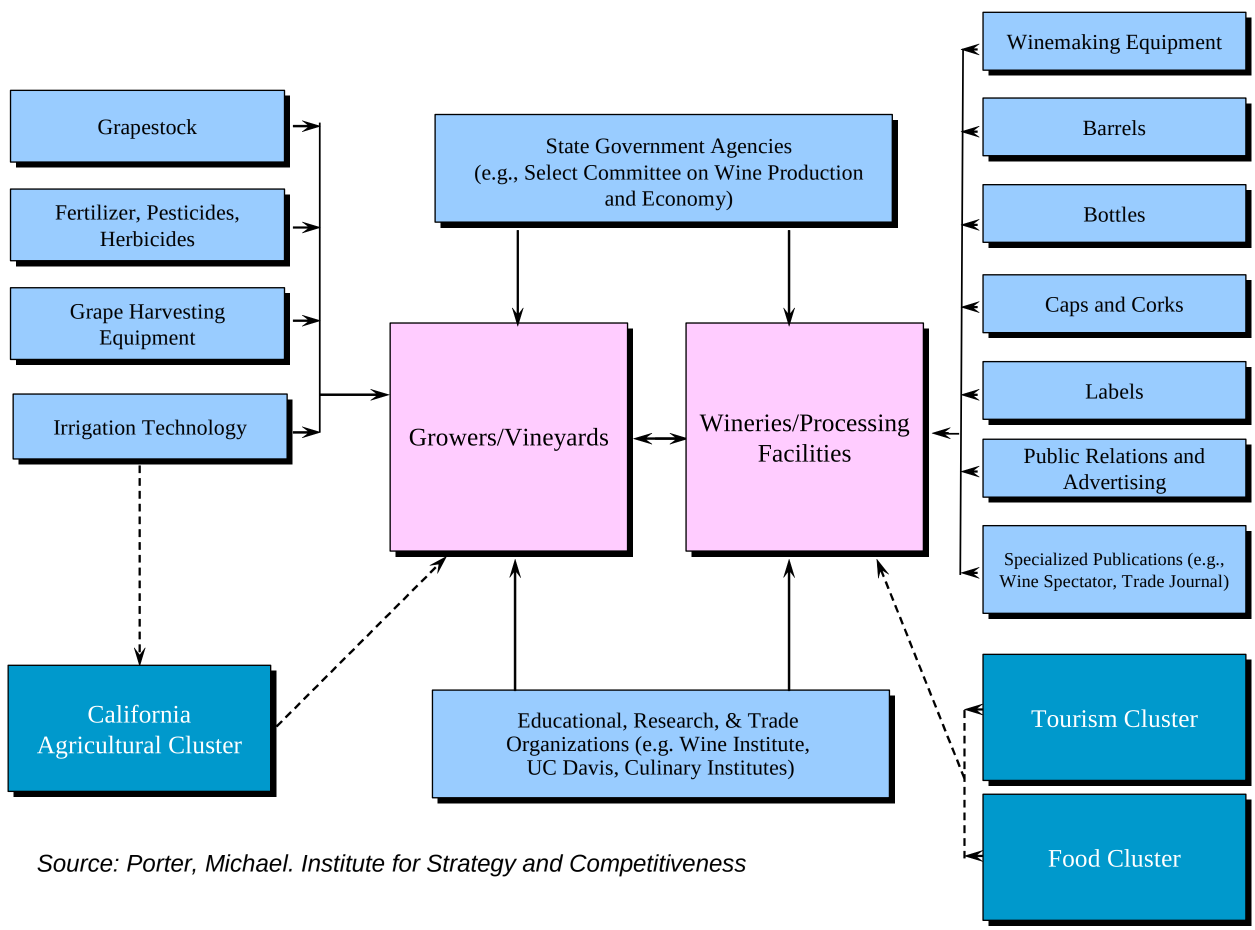
[1] www.competitiveness.org
[2] For example, Costa Rica’s efforts to develop its electronics and information technology cluster, which resulted in attracting an Intel assembly and testing plant

Whether or not cluster development is the best choice for an economic development program, it is important to understand cluster dynamics for the insight they provide into how industries develop and economies grow. Assessing and analyzing clusters is valuable for identifying constraints, relative strengths, and potential for future growth of an economy.

What are Clusters?

Firms producing competing and complementary products and their locally-based[3] buyers and suppliers are at the heart of clusters. However, a cluster is more than just producers. It can also include specialized service providers, associations, research organizations, educational institutions, and government bodies. (See Figure 1 below for an example of the components of the California wine cluster.)

Figure 1: California Wine Cluster



Source: Porter, Michael. Institute for Strategy and Competitiveness

[3] Local refers to location rather than ownership. A firm located in a cluster is part of that cluster regardless of whether it is foreign or domestic, large or small.

Studies of economic development in advanced countries have shown that firms located in clusters are more likely be innovative, pay higher wages, and achieve greater productivity than firms that are geographically isolated, with few local linkages.[4] When firms and related organizations are situated in physical proximity to each other, they have more (and more varied) interaction than geographically dispersed firms. This leads to increased efficiency and quality through:

- Peer pressure. Local rivalry can spur companies to better performance. When similar companies are located near each other, differences become more noticeable. Comparisons are more relevant when firms operate under similar conditions and it is easier to identify and replicate best practices. When workers have many employment options, companies face pressure to perform well in order to attract and retain employees.

- Relationships. Personal relationships facilitate the flow of information. In clusters, there tend to be strong informal networks where specialized knowledge is dispersed quickly through business transactions, social activities and other casual interactions. Substantial benefits occur when buyers and suppliers are located in the same geographic area. For example, nearby suppliers can provide more post-sale services such as installation and technical support. Coordination and feedback can help improve the quality of inputs, which affects the value of final products. Close communication between companies and researchers facilitates brainstorming and experimentation and can also reduce risk. Firms are much less likely to realize these benefits when they are located at a great distance from each other.

- Investment in public goods. Public goods such as roads, ports, and a clean environment, benefit everyone regardless of who pays for them. Accordingly, public goods are often thought to be the responsibility of government. However, some public goods that benefit primarily businesses may be more efficiently provided by the private sector itself. Examples include marketing for local tourism, specialized infrastructure, and testing/certification centers. There is often underinvestment in these public goods, though, since benefits accrue to a broader group than just those who pay for them. Even though all businesses would gain, it is in no individual firm's interest to fund initiatives increasing the value of public goods when it cannot capture all the benefits or limit its competitors' ability to benefit without paying. When there is a critical mass of businesses, academic institutions, associations, NGOs, government, and other related organizations, the provision of public and quasi-public goods can be more easily addressed through collective effort. Additionally, it is usually cheaper to provide these goods or services when beneficiaries are concentrated rather than widely dispersed.

- Reinforcing growth. Once a critical mass of cluster activity develops, the attractiveness of locating in the cluster increases rapidly, which accelerates the cluster's growth. Physically locating close to a large number of firms reduces transaction costs and increases opportunities for sales, thereby creating greater incentives for additional firms to locate in the cluster. Suppliers may lower prices because of economies of scale, further adding to the advantages of the location. The most talented employees are attracted to the region because of the plethora of employment opportunities. Entrepreneurs will it find it beneficial to start new businesses in the cluster because existing assets, inputs, staff and specialized resources lower barriers to entry.

[4] Porter (1990)

Government and academic institutions will have justification for sponsoring specialized programs and infrastructure to support the cluster. And the residents of the cluster are often the most sophisticated and demanding consumers of the cluster's products (for example, wine in France and mobile telephony in Finland), providing advance signals for cluster firms on future trends and consumer needs. As the cluster grows, the advantages of the location increase exponentially.

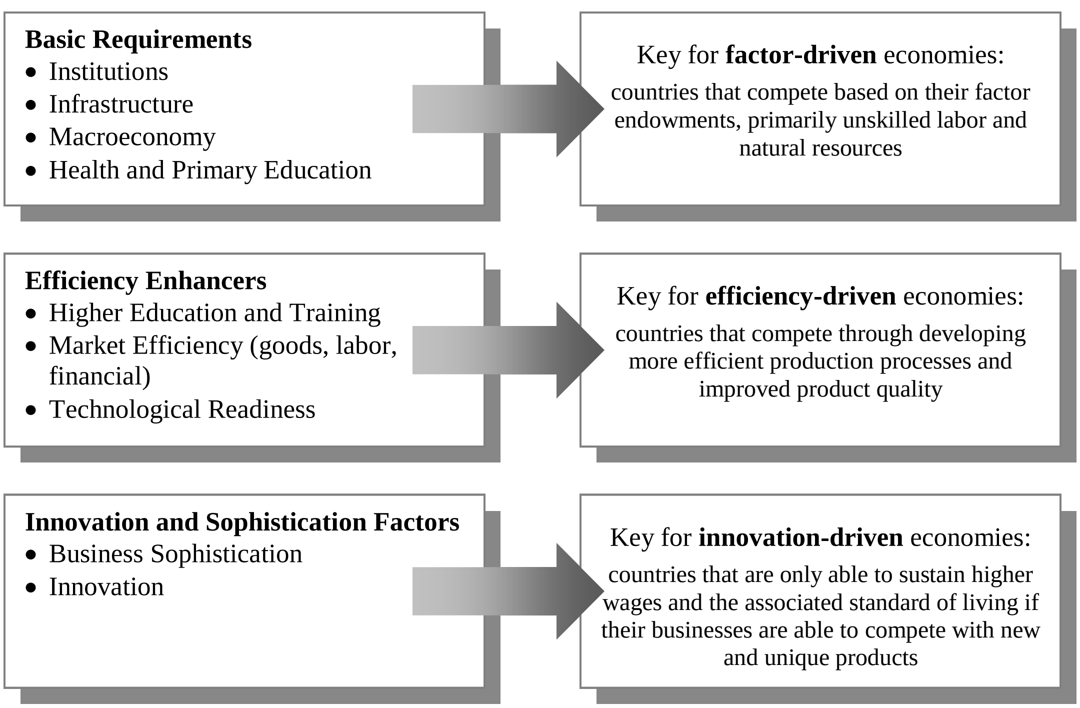
Clusters and Competitiveness

The terms "cluster" and "competitiveness" are often associated. There can be strong connections between the two, but each has multiple meanings and development practitioners have sometimes used the terms in confusing ways.

Competitiveness is a broad concept that was widely used in economics and business before the interest in clusters as an economic development objective emerged. At the firm level, competitiveness is the ability to sell products or services at a profit over a sustained period of time despite the presence of rivals. A firm is competitive because it competes successfully with other firms. At the national level, competitiveness reflects the ability of a country to use its resources in a way that raises the standard of living for its citizens. As a result, an economy is able to sell a broad-range of goods and services in international markets and attract efficiency-seeking investment from abroad.

The World Economic Forum, which annually benchmarks conditions for economic growth in its *Global Competitiveness Report,* considers the determinants of national-level competitiveness to be "the set of factors, policies and institutions that determine the level of productivity of a

Figure 2: Nine Pillars of Global Competitiveness



Source: WEF, Global Competitiveness Report country."[5] The *Report*'s methodology evaluates nine pillars that drive productivity and competitiveness: institutions, infrastructure, macroeconomy, health and primary education, higher education and training, market efficiency, technological readiness, business sophistication, and innovation. All these factors are necessary for improving competitiveness, but some are more important than others at different stages of development (see Figure 2).

As the concept of competitiveness gained popularity among non-specialists, the term "competitiveness" began to be used less to describe an end state, and more to refer to the steps needed to achieve the goal of being competitive. Many suggested that promoting the development of clusters was a critical component of those steps. Some cluster practitioners have confused matters further by saying that they "do" competitiveness. For some this indicates applying a particular methodology such as cluster development; for others, it means more generally promoting either the potential to compete or the end result of competitiveness – success in global markets. It is important to distinguish competitiveness from cluster development, however. As the *Global Competitiveness Report* makes clear, there are myriad factors that determine a country's competitiveness. Cluster development can help address some of them, but is unlikely to be effective in addressing all.

Figure 3: Levels of Cluster Development

Working Clusters	**A critical mass of local knowledge, expertise, personnel and resources create agglomeration economies; there is knowledge of the interdependence of local competitors, suppliers, customers, and institutions**
Latent Clusters	**A critical mass of firms in related industries sufficient to reap the benefits of clustering, but have not developed the level of interaction and information flows necessary to truly benefit from co-location**
Potential Clusters	**Some of the elements necessary for the development of successful clusters, but these elements must be deepened and broadened in order to benefit from the impact of agglomeration**
Policy-driven Clusters	**Chosen by the government for support, but lack a critical mass of firms or favorable conditions for organic development**
"Wishful Thinking" Clusters	**Policy-driven cluster that lack not only a critical mass, but any particular source of advantage that might promote organic development**

Source: Enright (2002)

Cluster development is only one of many strategies for enhancing an economy's competitiveness. In developing countries, there is frequently not a critical mass of economic activity sufficient to constitute a working cluster (see Figure 3). While it can be useful to support potential or latent clusters in developing countries, helping a country to improve its international competitiveness may require more fundamental economy-wide reforms to improve macroeconomic management, the investment climate, and/or investments in education, transportation and communication infrastructure. These reforms may benefit many more people and firms than those in a specific cluster.

[5] http://www.weforum.org/fweblive/groups/public/documents/wef_member_pdf/gcr_0607_1_1_gcindexes.pdf

Clusters vs. Value Chains

Clusters differ from value chains in two ways. First, a value chain, defined as the full range of activities required to take a product from its conception to its end use, is rarely confined to one geographic area.[6] For example, cocoa beans produced in Indonesia may be processed in Europe into chocolate bars that are sold in the United States. Co-location in a certain region, on the other hand, is definitional to a cluster.[7]

Second, a value chain is focused on a specific product, such as chocolate. A cluster, alternatively, is linked by common or complementary products, skill needs, technologies or infrastructure. A chocolate manufacturer in Europe may be located in a region where there are other food processors, packaging manufacturers, advertising firms specializing in food products, food standards organizations, food science degree programs, industry associations, and other related groups. These other entities may not be directly linked into the chocolate value chain, but would be part of a local food processing cluster.

Every product and firm is part of a value chain but relatively few in developing countries are part of a cluster. A cluster is distinguished by synergies brought about by the co-location of related parts of an industry. Firms that are not a part of a cluster may be competitive, but they are more likely to be successful with the special advantages that can come from cluster relationships.

Cluster Development

The cluster approach to development aims to stimulate economic growth by increasing the benefits to firms of being located in a certain region. It recognizes that business sophistication is a necessary ingredient for a firm or industry to compete, but that firm strategy, management, and operations are highly influenced by factors associated with the firm's physical location. While in theory competitive firms can be found anywhere; in practice, they tend to be located in competitive clusters.[8]

Geographic characteristics of a region, such as access to natural resources and climate, cannot be changed, but other factors in the environment surrounding a cluster can be improved through policy reform and other joint efforts.

Efforts to upgrade the microeconomic environment are often more effective when approached from a cluster perspective rather than focusing on other subsets of the economy, such as firms of a certain size. A cluster group that represents a significant part of the economy is more likely to have a voice with government than individual firms or even associations would have on their own. [9]

Because clusters are composed of diverse firms and organizations, special interests often cancel out. Using a cluster approach to pursue policy reform or other common interests is more likely to produce broad-based benefits than working with one cluster component such as a subset of firms. Collaborative efforts are less likely to result in collusion or anti-competitive

[6] For more information on value chains, see http://www.globalvaluechains.org/
[7] There is no consensus on the appropriate geographic scale for a cluster – it may be a village or a country. A cluster may also cross political boundaries. This vagueness is one of primary criticisms of the cluster concept. A thorough discussion of the difficulty of defining clusters is in Martin and Sunley (2002).
[8] Porter (1990)
[9] A number of case studies have been documented by the World Bank at www.publicprivatedialogue.org

behavior, which is a risk when working with a small group of firms or business associations. For example, an effort by local hotels to lobby government for restrictions on investments by foreign hotels would be against the interests of local restaurants and tour operators who might see foreign hotels as bringing more high-paying customers.

Dialogue in a cluster forum can encourage firms to see the value in setting aside their parochial interests and becoming more active participants in setting priorities for public policy. For example, while individually most businesses would argue for lower taxes, as a cluster they may see that they would all gain more by government-funded investment in specialized infrastructure. An organized cluster can also serve as a watchdog to improve the efficiency and suitability of government action.

What We Know About Cluster Development Efforts

Despite the significant progress made in research showing the economic benefits of clusters, we still know relatively little about the effectiveness of cluster development efforts, especially in developing countries. According to Michael Porter, "Hundreds of cluster initiatives have been launched involving virtually all regions of the world, and the number is growing. These initiatives, which take a wide variety of forms, are now an accepted part of economic development. However, we have surprisingly little systematic knowledge of these initiatives, their structure, and their outcomes. As more and more resources are devoted to efforts to foster cluster development, the need to understand best practices has become urgent."[10]

Successful cluster initiatives are private-sector driven, involve a high degree of participation by a wide range of stakeholders, and strengthen cooperation while increasing competition.[1] Typical activities of clusters include:

Business environment: investment in specialized infrastructure, regulatory and policy reform

Intelligence: dissemination of information and data on cluster-specific business, economic and technological trends

Joint sales: promoting foreign sales, branding of the region, branding of products

HR upgrading: technical training, management training, production process improvement, development and certification of technical standards, university and vocational curriculum improvement

Joint production: supply-chain development, bundled production, joint logistics, joint purchasing

Firm formation: specialized business services, spin-off and investment promotion

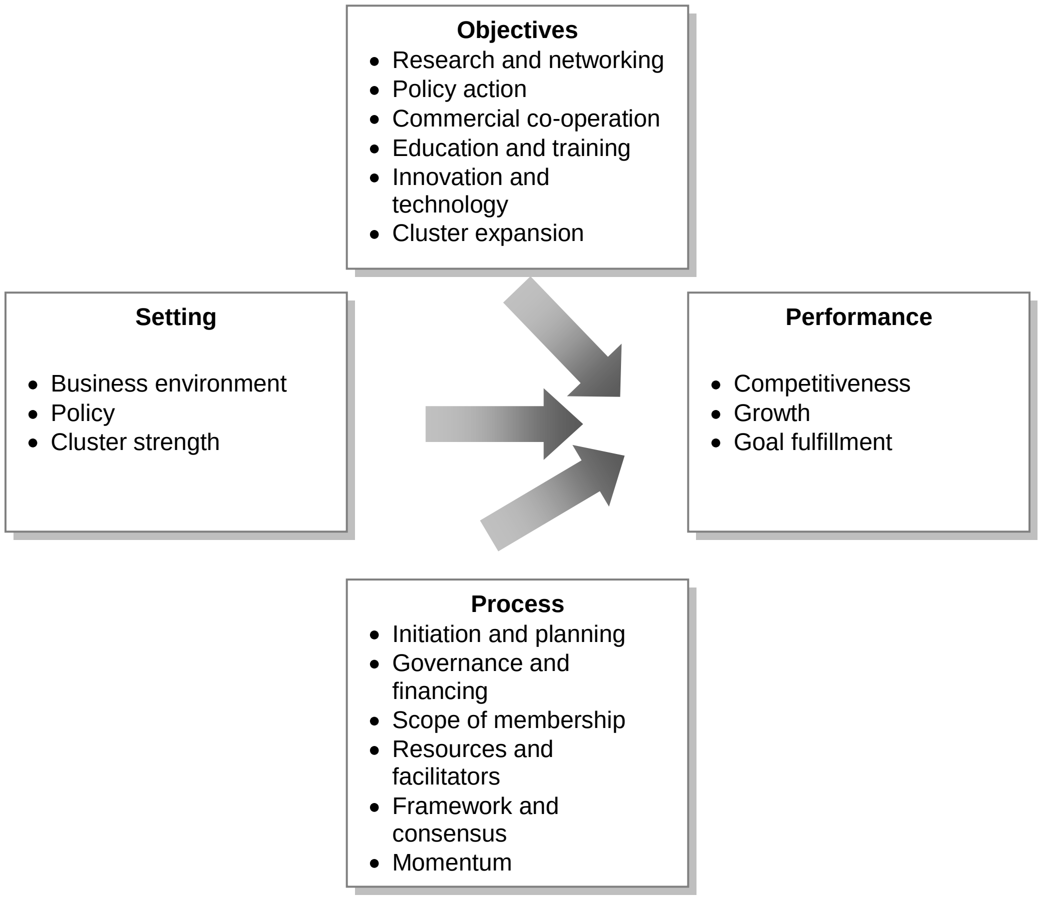
R&D: joint R&D projects, commercialization of academic research

Source: Ketels *et al* (2005)

Cluster theory emphasizes unique local conditions and accordingly, there is substantial variation in the objectives and structure of cluster development efforts.[11] There has not been sufficient research to determine whether there are patterns in the variation that can be classified and used as a basis for guidance in developing countries. Despite this diversity, a large study of cluster initiatives primarily in advanced countries identified common traits of those initiatives that worked the best. The *Cluster Initiative Greenbook* (2003)[12] classified these traits into three areas: objectives of the cluster initiative; social, political and economic setting within the nation; and the process by which the cluster initiative develops (see Figure 4).

[10] Sölvell, *et al* (2003)
[11] Ketels, *et al* (2005)
[12] The *Greenbook* was prepared for the 2003 annual conference of The Competitiveness Institute and was financed by VINNOVA, the Swedish Governmental Agency for Innovation Systems.

Figure 4: Cluster Initiative Performance Model



Source: *Cluster Initiative Greenbook*

Objectives

Networking among cluster participants is the most common objective of cluster development efforts. Often this takes the form of gathering information, publishing reports, sharing information through seminars, and developing websites. Networking is also done for the purpose of advocating for policy change and facilitating dialogue among industry, the scientific community and government authorities. Commercial cooperation in areas like organizing trade fairs, promoting exports and marketing the cluster is also common. Joint purchasing and dividing the market to reduce competition occur, but much less frequently.

Setting

Not surprisingly, the most successful cluster initiatives serve relatively developed clusters in locations where there is already a good business environment. Initiatives have much less impact when cluster promotion is a standalone initiative that is not integrated into a broader economic reform agenda. Cluster development efforts are more successful when the business community has a high level of trust in government and when influential local government decision-makers participate in the initiative. Initiatives that are limited to domestic companies perform worse.

Process

Cluster development efforts are initiated by both government and the private sector, but regardless of who launches the effort, in successful cluster initiatives, business tends to lead and set the agenda. Government's role is mainly to provide financing and organizational support. Initiatives tend to perform better when there is a competition process to receive government financing.

The *Greenbook* found that it typically takes three years or more to build up momentum for a cluster initiative. Reaching this point is often highly dependent on the efforts of a single individual ("clusterpreneur"), who is well-respected in the industry and has a strong network.

Over time in successful cluster programs, financing from government tends to be reduced and replaced by member fees. Accordingly, cluster initiatives become less project-based and more like other membership associations. Organizations become more structured, establish offices and frequently hire professional managers to coordinate activities and provide organizational support, but there is no tendency for budgets to increase over time.

A case study on Slovenia in the *Cluster Initiative Greenbook* illustrates several factors that are particularly challenging in transition economies:

- **Trust in government initiatives is low, and there is little experience in industry collaboration to build on.**
- **Clusters are often weak, lacking domestic rivalry and foreign investments.**
- **General knowledge of clusters and cluster initiatives is poor and there is a lack of expertise needed to communicate concepts. This makes it difficult to build common frameworks for cluster initiatives.**
- **There are several obstacles to entrepreneurship, including bureaucracy and lack of venture capital.**
- **The government's long-term commitment to cluster initiatives can be questioned if programs are not supported by other microeconomic policies, such as education policies or FDI policies.**

Cluster initiatives at USAID

USAID's first cluster project was in Lebanon in 1998.[13] At the peak of the approach's popularity in 2003, there were projects in 26 countries totaling $60 million with most projects in the Europe and Eurasia region. It is difficult to quantify the impact of these cluster projects since many benefits of clusters result from spillover effects, which are difficult to attribute to donor support alone. Furthermore, few project evaluations have been done and there is a surprising lack of baseline data, so USAID has been hindered in its ability to identify best practices and learn from its experience.

Despite these hurdles, USAID commissioned two stock-taking efforts in order to better understand USAID cluster projects and cluster initiatives in developing countries more

[13] Mitchell Group (2003)

generally. In both cases, since independent data was unavailable or prohibitively expensive to collect, most information came from project implementers. Although one should be careful about drawing firm conclusions from self-reported results, these studies suggest some interesting findings.

"Promoting Competitiveness in Practice: An Assessment of Cluster-Based Approaches"

The first study, completed in 2003, was "Promoting Competitiveness in Practice: An Assessment of Cluster-Based Approaches." It was based on a literature review, contractor reports, and interviews with contractors, donors, and organizations that have had experience with cluster projects in developing countries. The review also included field assessments of a USAID-funded program in Mongolia and Transformando Campeche, an initiative launched by the local business community in the state of Campeche in southeastern Mexico.

A key finding of the report was that cluster initiatives require long time horizons and USAID's projects were too new to judge impact.

Similar to the *Greenbook*, "Promoting Competitiveness" found that cluster projects are often highly dependent on one dynamic leader. This can be a large risk for USAID programs since the effort can stagnate if the project's champion reduces his/her involvement. In addition to this leader, private sector contribution in general is essential. "For a [cluster] initiative to develop successfully, cluster members must be committed and willing to devote time, resources and, most importantly, 'sweat-equity' for the good of the industry as a whole." A large budget that obviates the need for private sector contribution may work against this process and reduce the private sector's feeling of ownership of the project.

Sri Lanka Competitiveness Initiative

USAID's cluster project in Sri Lanka provides common examples of activities these types of projects pursue.

The spice cluster successfully advocated for a new classification, "Ceylon Cinnamon" in the Harmonized System code of the World Customs Organization. Previously, inferior species of cinnamon called cassia were included in the same category as the true cinnamon that is indigenous to Sri Lanka. The new heading will help in product differentiation in the marketing of Sri Lankan cinnamon, which can receive a price four times higher than cassia.

Although branded jewelry has a 40% price premium, gems from Sri Lanka were mainly exported just as cut and polished stones. Through cooperative efforts, the cluster signed an agreement with an international designer and launched a line of jewelry using Ceylon sapphires. Since currently gems must be sent to expensive overseas labs or to trade shows for accreditation, the cluster also has plans to establish an internationally-accredited local certification laboratory. The cluster also developed a six-month on-the-job internship training program for third-year university students to help improve the quality and preparedness of the local workforce.

The study found that the best role for a USAID contractor was as an honest and trusted broker to bring disparate parties with varied interests together. Donor projects can credibly provide global perspective and technical expertise, but the cluster development process should be driven by the local private sector. Too much involvement and guidance by contractors trying to speed the process can back-fire.

"Promoting Competitiveness" found that the most difficult circumstances for cluster projects were in traditional sectors and in transition countries. Well-established sectors with long traditions in a country tend to be more backward-looking and resistant to change. The legacy of central planning in transition countries results in low trust in government, which can impede efforts to improve the policy environment through public-private partnerships. Transition economies are also often characterized by a production- rather than consumer-focus, weak business skills, limited understanding of international markets, and less volunteerism.

"Cluster Initiatives in Developing and Transition Countries"

The second USAID stock-taking effort occurred in 2005 with "Cluster Initiatives in Developing and Transition Countries." This project included a survey of cluster managers and interviews with cluster practitioners, similar to the methodology for the *Cluster Initiative Greenbook*. The objective of this study was to improve USAID's understanding of donor-led cluster projects' goals, activities and organizational structures. For comparison purposes, the survey also included cluster development efforts in developing and transition countries that were initiated by governments or local business communities with no or minimal donor support, as well as cluster projects in advanced countries[14].

This project further illuminated why "Promoting Competitiveness" yielded such inconclusive results. Not only do cluster projects usually have long time horizons, but there is also tremendous variation in the approach and structure of cluster development projects, making generalizations very difficult. Not surprisingly, there were few similarities between cluster initiatives in developing/transition countries and those in advanced countries. Cluster initiatives in advanced countries typically emphasize promoting innovation and supporting research and development, while this is rarely a primary goal for developing/transition countries. Interestingly, there were also many differences between cluster initiatives in Eastern Europe/former Soviet Union and those in non-transition developing countries. For example cluster initiatives in transition countries tend to focus more on business environment reform, management training and upgrading production processes while developing country initiatives more often aim to increase exports and develop supply chains. Finally, cluster development efforts varied substantially based on whether they were launched by the government, the private sector or international donors.

Donor-initiated cluster projects operate in the most challenging settings where the level of trust is the lowest and government policy is the least supportive. This may be appropriate given donors' emphasis on addressing weaknesses that cannot be overcome with domestic resources alone. Achieving sustainable results, however, also requires addressing the underlying sources of these weaknesses rather than just their consequences. It is not clear whether donor-led projects are doing this sufficiently.

The results of the study raised questions about the process of industry selection. Agriculture is the main target of cluster programs in developing countries no matter who initiated the cluster effort. There is significant variation in transition countries, on the other hand. Government initiatives tend to be in manufacturing industries, while business focuses more on high-tech industries. Some donors, however, select the same industries in the same proportions regardless of the type of economy.

The data on financing shows that businesses and governments fund cluster initiatives when they launch these projects themselves. Their contributions to donor-led efforts, however, are minimal and do not seem to increase even as initiatives become more established.

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[14] Seventy-six respondents from transition countries of Eastern Europe and Central Asia; 100 respondents from developing countries; and 536 responses from advanced countries.

These findings suggest that donors may be overusing standard approaches when they design and implement cluster initiatives. The results also raise concerns about the sustainability of donor-initiated cluster development projects since businesses and governments often make different choices when they undertake these projects themselves. It is important to ask, both before and during a cluster initiative, whether the project is meeting the needs of local participants to a degree sufficient to motivate them to continue these efforts without donor support?

There is a common concern in advanced economies that governments (especially regional development agencies) are too active in cluster initiatives and crowd out private sector leadership. The study found that this does not seem to be a problem in developing and transition economies, where government generally plays a small role. Donors, however, often replace governments as initiators and financers of cluster projects. In many cases, they retain much of the influence in decision-making and setting the agenda. When donors feel they must play this role because businesses cannot, and if that makes them rather than business the prime counterparts, engaging in cluster activities as a private sector development tool may be premature and meaningful results may be limited.

Another consequence of overly strong donor influence is that donors sometimes fail to sufficiently involve government, making it difficult to pursue activities that require government participation, such as policy reform and investment in infrastructure. Although government capacity (or willingness) to assist cluster development may be weak, donor substitution for government involvement suggests that fundamental constraints in the business environment may not be addressed. Strengthening government institutions, particularly at the local level, and their ability to support the private sector can be important for enhancing the competitiveness of clusters.

Cluster Approaches without Clusters

A cluster approach (drawing a wide range of industry participants together to identify and address common problems) has frequently been taken in USAID field programs even when industries have few or no characteristics of a cluster. There is no reason not to do this, but the results of working with a true industry cluster are, all else equal, likely to be significantly greater.

Guidelines

Some USAID field missions have concluded that the uncertainty of the cluster approach is too risky given political pressure to achieve results quickly. As more is being learned about models for cluster development, missions may want to revisit this assumption and consider new ways to support clusters. The following guidelines should be kept in mind:

1. Cluster initiatives rarely produce short-term results

It can be difficult to predict when cluster promotion activities will show impact. The pressure to demonstrate immediate results can lead donors to become active participants in the cluster development process rather than facilitators. It may also cause them to focus more on advancing the cluster *initiative* than the underlying cluster itself, emphasizing process achievements at the expense of economic impact. Creating working groups, facilitating cooperation, and forming effective cluster organizations become ultimate objectives instead of simply the means for supporting economic growth.

2. The more competition, the better

Cluster projects are more likely to be successful when there are strong competitive pressures from a high concentration of industry locally and from international competition. If there is insufficient competition within the cluster, efforts to encourage collective action may result in groupthink or anti-competitive behavior, such as price fixing. This is less likely to occur in traded industries, where local firms must compete with imports.

The data required to determine what potential clusters there are is often lacking in developing countries so it is difficult to know how large a cluster is in terms of territorial reach and industry breadth. In general, it is best to be as inclusive as possible. If clusters are too narrowly defined, the ability to have major impact will be limited.

3. Cluster development project should enhance market mechanisms

Large donor projects can distort local markets, resulting in *reduced* competitiveness. Firms may concentrate their efforts more on getting assistance from donors rather than sales from customers. One way to lessen this risk is to focus activities on overcoming specific, legitimate market failures. Examples of common market failures that underpin cluster development initiatives are:[15]

- Limited information. Information that would be useful to the firms is not available to them or is only available at a cost that would be prohibitive.

- Managerial myopia. Information that is available is not used to optimum benefit due to lack of understanding or to a failure to link knowledge with action.

- Coordination failures. Information is available and is understood but is not acted upon because disparate actors cannot organize themselves to act in concert.

- Under-provision of public goods. Education, training, infrastructure, certain types of research and other public or quasi-public goods are undersupplied by markets.

4. Indirect (rather than direct) support for clusters can be effective and appropriate

Cluster analysis can be effective for determining the needs of an economy, but that does not mean that a cluster organization must be a part of the solution. There may be constraints to competitiveness that are more fundamental than weak clusters, such as macroeconomic instability or an ineffective regulatory environment. In some countries, there may be widespread inefficiency at the firm level. If the firms comprising the cluster are not competitive, the cluster will not be competitive.

In some cases, removing obstacles to cluster growth may be more effective than launching formal cluster organizations. This could take many forms, including reforming cluster-specific regulation or addressing labor needs through improving cluster-specific training programs. (It can also be the case, however, that a cluster initiative provides the means for identifying cluster-

[15] Enright (2002)

specific obstacles to growth.) In the final analysis, however, most clusters in the world have developed naturally without purposeful cluster development efforts. Determining why a potential cluster is not developing on its own and addressing those factors may have more impact than creating a cluster development organization.

The newness of the cluster approach in USAID programs has generated considerable confusion and debate over its effectiveness. As cluster programs continue and USAID learns more about how and when to develop clusters, more concrete guidance will be provided. In the meantime, understanding clusters and their potential remains an important part of understanding a country or region's economy and can valuable for informing USAID programs regardless of whether these programs have explicit objectives to promote clusters.

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