

# **Evaluation of Competitiveness Initiatives: Survey of Non-USAID Experiences**

Prepared by

**The Mitchell Group  
Study Team**

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## Acronyms and Abbreviations

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ACP	Andean Competitiveness Program
ADC	Andean Development Corporation
ASEAN	Association of South East Asian Nations
ATPA	Andean Trade Preference Act
BDS	Business development services
BOT	Build-operate and transfer
CAF	Corporación Andina de Fomento
CFI	Canada Foundation for Innovation
CID	Center for International Development
CIDA	Canadian International Development Agency
CLACDS	Centro Latinoamericano para la Competitividad y el Desarrollo Sostenible
FDI	Foreign direct investment
ICA	Investment climate assessments
ICC	Institutions for Competitiveness in Colombia
IDB	Inter-American Development Bank
IDRC	International Development Research Center
INCAE	Instituto Centroamericano de Administración de Empresas
MOFT	Ministry of Foreign Trade
MPC	Movimiento Brasil Competitivo
NCC	National Competitiveness Council
OECD	Organization for Economic Cooperation and Development
PFI	Private Financing of Infrastructure
PSA	Private sector assessment
SMEs	Small and medium enterprises
TEC	Trade, Employment and Competitiveness Program
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development

## Executive Summary

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Globalization of production activities in recent years has strengthened the tendency of firms in related lines of business to locate and operate in close physical proximity to one another. The agglomeration of firms in related industries that form these clusters has provided them with an opportunity to improve their productivity, and thereby their competitiveness. Clustering has thereby provided a way of defining economic development strategies, both in the medium-term for defining ways to establish and expand industries and in the long-term for sustaining economic growth.

Support by both private and public sector interests of these clusters has been widespread, and has mainly taken the form of policies to improve the supply-side efficiency of diverse economic units, ranging from developing and industrialized nation states, to cross-national regions and subregions within countries. These cluster-development policies have been distinct from macroeconomic reforms addressing the overall competitiveness of countries through improvements in their exchange rates, fiscal balances, monetary stability, as well as structural adjustments and privatization initiatives. Instead they have tended to focus on microeconomic policies aimed at promoting research and development and fostering innovation, promoting investments from domestic and foreign sources, supporting the creation of small and medium size enterprises (SMEs), improving physical infrastructures, enhancing corporate governance, and streamlining trade and investment procedures.

Yet despite the diversity of these clusters in terms of the size and number of enterprises involved, and the range of that have been implemented by widely different economic systems governing countries and regions, cluster-development policies have tended to share a number of common elements and characteristics. Moreover, a central tenant of the cluster approach is the notion that policy action can change the collective actions by groups of firms to promote joint development strategies that will eventually create self-sustaining networks that generate high productivity growth.

This report examines the range of non-USAID clustering experiences and supporting policies and practices, and assesses their success or failure, as well as identifying issues, obstacles, opportunities and constraints to their development. The focus of the survey is industrial clustering activities by donors and agencies other than that undertaken by USAID. It examines supply-side based competitiveness initiatives in both developing and industrialized countries. In so doing, it evaluates the efforts that have been made to make these countries successful international competitors in particular activities in terms of the various methods, approaches and procedures that have been used in the interventions.

### **S.1 Findings**

What immediately becomes apparent from the summary characteristics of these clusters and networks is that their proliferation, especially in developing countries, has been a very recent phenomenon. While most programs to improve competitiveness in the industrialized

countries date from the early to mid-1990s, those in developing countries, by and large, date from the last 5 years, as do those in multilateral and regional development institutions.

Moreover, despite their very recent emergence as a focal point of economic development policy, the worldwide growth of industry and regional clusters and business networks has been impressive. The inventory of clusters by the Institute for Strategy and Competitiveness at Harvard Business School currently details 169 clusters in developing countries and 664 in industrialized countries (see Tables 2.1 and 3.1 above). Yet little, if any, attempt has been made so far to gather systematic information about the policies and practices of these clusters, especially for those that have been developed independently of USAID support. Lack of conformity about the design, objectives, methodology, and even definition of clusters have all contributed to the difficulty of systematizing information about them, especially quantitative information about program costs and outcomes. The present synthesis of our findings is therefore less formalized than that for USAID supported programs, yet nonetheless aims to identify the major patterns and characteristics of cluster policies and practices found in the present survey. These patterns and characteristics can be distinguished into the following: (a) funding sources and institutional mechanisms, (b) cluster types, (c) program outcome objectives, (d) level of government and private sector involvement, (e) local versus national oversight, and (f) economic policy support mechanisms.

## **S.2 Funding Sources and Institutional Mechanisms**

Most competitiveness programs of developing countries have initially been funded by international donor agencies, rather than through direct government sources. Although they continue to rely on these funding sources, some such as the Competitiveness Movement in Brazil increasingly rely on government funding. These start-up funds are often directed at the establishment of institutional structures like National Competitiveness Councils that serve as the implementation vehicle for the competitiveness programs.

In contrast, industrialized countries tend to rely on competitiveness councils to a lesser extent than developing countries, although these functions are nevertheless carried out by government agencies. For example, Ireland, a country that is often viewed as a role model for cluster development, has a competitiveness council housed within the national advisory board. Ireland's success, however, cannot be solely attributed to its institution mechanism, since it has also implemented macroeconomic and structural adjustment policies and private sector development programs to support its competitiveness enhancing initiatives.

## **S.3 Cluster Types**

For developing countries, an appropriate classification of the wide-ranging experiences reviewed in this survey is the four types of clusters identified by Altenburg and Meyer-Stamer (1999): (1) clusters of transnational corporations; (2) clusters of resource-based industries; (3) clusters of micro- and small-scale enterprises; and (4) clusters of advanced and differentiated mass producers. The more important and economically viable type of these clusters has been that associated with transnational corporations.

The first two types of clusters in this classification tend to promote best manufacturing practices and contribute to upgrading of domestic firms by involving them in the supply-chain of production activities, though clusters of resource-based industries tend to be heterogeneous in their composition and linkages. Clusters of transnationals have been characterized by large-scale branches from multinationals located in geographical areas where they are able to carry out their production and marketing functions both in an effective production manner and by penetration of important markets. Cross-national production networks have therefore been motivated by efforts to exploit international factor cost differentials, minimize transactions costs, access clusters of specialized capabilities and contested growth markets, and reduce the response time to technological changes and market requirements. Under these circumstances, transnational clusters have been closely related to cost competition and speed-to-market considerations.

The later two types of clusters (those of micro- and small-scale enterprises and those of advanced and differentiated mass producers) have tended to succeed when combined with clusters of transnational corporations; without them, they have only been able to compete locally under import-substitution policies because of their high cost structures. Clusters of micro- and small-scale enterprises, though the largest in terms of their numbers, have generally operated in the informal sectors of developing countries. An example covered in the present survey is Egypt, where the weakness of SMEs and micro-enterprise activity in the informal sector of the economy has been a major impediment to the development of private sector development efforts. Similarly, clusters of advanced and differentiated mass producers have relied on import-substitution policies to survive, and they have therefore had little innovation and R&D associated with their activities.

#### **S.4 Program Outcome Objectives**

Cluster and business network programs tend to have a variety of outcomes as their objectives, such as improvement of market shares and employment creation, all of which make quantification of outcomes difficult, even where cluster development programs have been well-established.

Industrial economies are more advanced than developing economies in terms of the technological development aims of their cluster development programs. For example, in Canada, competitiveness initiatives tend to focus on innovation, such as cutting-edge technologies and knowledge management. A similar pattern exists in the United States, where state and regional authorities have played a major role in promoting technology-based industries using cluster initiatives.

#### **S.5 Level of Government and Private Sector Involvement**

Most developing and industrialized countries have competitiveness programs that represent collaborative competitiveness programs between public and private sector interests. The composition and degree of mutual involvement is closely associated with country size: the larger the country in terms of GDP size, the greater the collaboration between the two sectors. In Brazil, for example, the High Council of the *Movimento Brasil Competitivo* is jointly headed by representatives of government agencies and private companies.

Joint ownership of the program between public and private sector institutions has tended to provide a balance between cluster development policies and business networking practices, as well as being less vulnerable to political controversy, as in Bermuda's competitiveness program. Similarly, the role of government in streamlining export procedures and facilitate information flows business in Colombia has been an important component to private sector efforts to provide services to their respective groups.

### **S.6 Local versus National Oversight**

Country size is also an important determinant of the distribution of national versus regional ownership over competitiveness programs. In large developing countries such as Mexico, competitive initiatives are almost wholly limited to the regional and state levels. Similarly, in larger economies such as the United States, state and local authorities have dominated cluster initiatives, while in small economies such as New Zealand, the weakness of local governments has undermined clusters and networking experiences.

There are two important differences in the manner in which the larger developing and industrialized countries have promoted cluster development at the regional level. First, developing countries such as Mexico and, to a somewhat lesser extent, Thailand have tended to promote state and local clusters without national-level coordination, whereas countries such as the United States, as well as the European Union, have made a number of efforts to coordinate cluster development programs among its member states. Secondly, cluster development programs in the larger industrialized countries have tended to exploit existing industries based on existing local or regional comparative advantages. In contrast, the larger developing countries have targeted foreign direct investment as a means of promoting technology transfer and the development of new high value-added industries.

### **S.7 Economic Policy Support Mechanisms**

Supporting economic policies from national and local governments are an integral part of all competitiveness programs. Developing countries that have until recently adopted inward-looking import substitution regimes have had to implement so-called first-generation reforms of macroeconomic and sector policies as their cluster policy components. In contrast, countries that have adopted outward-oriented and private sector led economic growth strategies have enabled the operation of market signals, and instead implemented policies to remove administrative and bureaucratic obstacles to private sector activities. In these countries, the cluster policy components have been second-generation reforms aimed at eliminating obstacles in their regulatory and institutional environments inhibiting private sector activities. Development of clustering activities by transnational corporations has generally been concentrated in developing countries that have adopted outward-oriented, private sector led growth strategies and have addressed second-generation reforms.

# 1. Introduction

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Globalization of production activities in recent years has strengthened the tendency of firms in related lines of business to locate and operate in close physical proximity to one another. The agglomeration of firms in related industries that form these clusters has provided them with an opportunity to improve their productivity, and thereby their competitiveness.<sup>1</sup> Clustering has thereby provided a way of defining economic development strategies, both in the medium-term for defining ways to establish and expand industries and in the long-term for sustaining economic growth.

Support by both private and public sector interests of these clusters has been widespread, and has mainly taken the form of policies to improve the supply-side efficiency of diverse economic units, ranging from developing and industrialized nation states, to cross-national regions and subregions within countries. These cluster-development policies have been distinct from macroeconomic reforms addressing the overall competitiveness of countries through improvements in their exchange rates, fiscal balances, monetary stability, as well as structural adjustments and privatization initiatives. Instead they have tended to focus on microeconomic policies aimed at promoting research and development and fostering innovation, promoting investments from domestic and foreign sources, supporting the creation of small and medium size enterprises (SMEs), improving physical infrastructures, enhancing corporate governance, and streamlining trade and investment procedures.

Yet despite the diversity of these clusters in terms of the size and number of enterprises involved, and the range of that have been implemented by widely different economic systems governing countries and regions, cluster-development policies have tended to share a number of common elements and characteristics. Moreover, a central tenant of the cluster approach is the notion that policy action can change the collective actions by groups of firms to promote joint development strategies that will eventually create self-sustaining networks that generate high productivity growth.

This report examines the range of non-USAID clustering experiences and supporting policies and practices, and assesses their success or failure, as well as identifying issues, obstacles, opportunities and constraints to their development. The focus of the survey is industrial clustering activities by donors and agencies other than that undertaken by USAID. It examines supply-side based competitiveness initiatives in both developing and industrialized

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<sup>1</sup> At the onset, it is useful to note that geographic agglomerations of firms in an industry or related industries can be take the following forms (Blunck, 2003): (a) an industrial cluster is a set of industries related through buyer-supplier and supplier-buyer relationships, or by common technologies, common buyers or distribution channels, or common labor pools (Porter 1990); (b) a regional cluster is an industrial cluster in which member firms are in close geographic proximity to each other (Enright 1992, 1993); and (c) a business network consists of several firms that has ongoing communication and interaction, and might have a certain level of interdependence, but that need not operate in related industries or be geographically concentrated in space (Staber 1996 and Sydow 1996).

countries. In so doing, it evaluates the efforts that have been made to make these countries successful international competitors in particular activities in terms of the various methods, approaches and procedures that have been used in the interventions.

Following this introduction, the paper is divided into the following chapters:

- *Developing Country Experiences* (Chapter 2) examines national level practices in Latin America, the Middle East and Asia, and regional practices in Latin America.
- *Industrial Country Experiences* (Chapter 3) surveys the experiences of the United States, (national and state levels), Canada, Europe (national and regional levels), Japan, Australia and New Zealand.
- *Experiences of Multilateral and Regional Development Agencies* (Chapter 4) examines the experiences of the World Bank, UNIDO, OECD, and the Inter-American Development Bank.
- *Implications for USAID Practices* (Chapter 5) brings together the lessons from non-USAID practices and assesses their implication for USAID activities.
- Annex A provides a summary of Non-USAID Competitiveness Initiatives.
- Annex B offers some useful Web sites.

## 2. Developing Country Experiences

### 2.1 Background

Competitiveness initiatives sponsored by organizations other than USAID date back to the early 1980s. DRI McGraw-Hill undertook competitiveness studies for Mexico and Morocco, the latter sponsored by the World Bank. Despite this early start, agencies and governments did not truly begin initiatives labeled ‘competitiveness projects’ without USAID support until

Table 2.1  
Developing Country Clusters in Metastudy Database

Country	No. of Clusters	Percent Distribution
Brazil	3	1.8%
Chile	1	0.6%
Colombia	1	0.6%
Costa Rica	2	1.2%
Ecuador	3	1.8%
Estonia	1	0.6%
Ghana	1	0.6%
India	106	62.7%
Jordan	4	2.4%
Kenya	4	2.4%
Lebanon	3	1.8%
Malaysia	2	1.2%
Mexico	8	4.7%
Morocco	5	3.0%
Nepal	1	0.6%
Pakistan	1	0.6%
Palestine	9	5.3%
Philippines	6	3.6%
Poland	1	0.6%
South Africa	2	1.2%
Taiwan	1	0.6%
Thailand	1	0.6%
Turkey	1	0.6%
Venezuela	2	1.2%
Total	169	100.0%

Source: Institute for Strategy and Competitiveness, Harvard Business School.

the late 1990s and early 2000. Since that time, the World Bank has extended its work to El Salvador and now has projects in other countries in Latin America, Asia, Africa and the Middle East. The Inter-American Development Bank (IDB) featured competitiveness as the theme of its 2001 Economic and Social Progress Report, and the Organization for Economic Cooperation and Development (OECD) commissioned studies and held conferences and workshops around the theme of competitiveness. In 2001 the Association of South East Asian Nations (ASEAN) commissioned a study to address the challenges faced by its member economies in the wake of the Asian financial crisis. Also at that time, governments throughout the developing world established National Competitiveness Councils, often initially with the help of international donor agencies such as the IDB and World Bank. These councils were then extended to the regional, and often local, level.

Cluster-oriented activities in many developing countries have evolved in line with the shift from protectionist trade and macroeconomic policies, towards the

growing economic openness that has accompanied the worldwide globalization of production and marketing facilities. In this context, Altenburg and Meyer-Stamer (1999) have made a useful distinction between four types of clusters: (1) survival clusters of micro- and small-scale enterprises, which have emerged out of unfavorable macroeconomic conditions rather than entrepreneurial competence and dynamism, and which have therefore contribute little to enhancing competitiveness; (2) clusters of advanced and differentiated mass producers, which developed under import-substitution policies but were unable to support themselves

from foreign competition in open economies; (3) clusters of transnational corporations, which have the best manufacturing practice and contribute to upgrading of domestic firms by involving them in the supply-chain of transnationals; and (4) clusters in resource-based industries such as those of agro-industry, petrochemical and metallurgical activities, which tend to be heterogeneous in their composition and linkages.

Each of these four cluster types has different origins, structures, goals, advantages and limitations. Although survival clusters of micro- and small-scale enterprises are the largest group in terms of their numbers, they are marginal to the formal economy and instead operate in the informal sector. Likewise, clusters of advanced and differentiated mass producers that developed under import-substitution policies standardized consumer goods for mass markets such as textiles and garments, footwear and furniture.<sup>2</sup> Because their markets are often protected, there has been little innovation and research and development (R&D) efforts associated with their activities. As a result, costs have tended to be high and they have proven to be non-competitive when confronted by foreign competition.

Clusters among transnationals have developed from the need for spatial proximity to flexible production systems. In general, this type of cluster has been characterized by large-scale branches from multinationals serving international markets, where production facilities rely on economies of scale, high-tech processes that limit entry by local firms.<sup>3</sup> Transnationals have often organized their production as an international network of affiliates located in geographical areas where they are able to carry out their production and marketing functions both in an effective production manner and to penetrate important markets. Those cross-national production networks have therefore been motivated by efforts to exploit international factor cost differentials, minimize transactions costs, access clusters of specialized capabilities and contested growth markets, and reduce the response time to technological changes and market requirements. Thus transnational clusters have been closely related to cost competition and speed-to-market considerations.<sup>4</sup>

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<sup>2</sup> Examples of this type of cluster ranges from those producing home textiles and knitwear in the Itajai Valley, Brazil, men's leather footwear in Leon, Mexico, ladies' leather footwear in Sinos Valley, Brazil, and Guadalajara, Mexico, and electromechanical/ metal engineering cluster around Joinville, Brazil (Altenburg and Meyer-Stamer, 1999).

<sup>3</sup> When entry barriers are high because of complex R&D requirements, costly overhead investments and the need for cross-national supplier networks designed to guarantee timely access to factor inputs or product components, then an oligopolistic market structure is likely to exist. Consumer preferences for variety also explains the large share of intra-industry trade in total trade and by multinational activities with sub-contractors, affiliates and joint ventures gives rise to the large volume of intra-firm trade. Transnational companies are motivated to establish these cross-boarder production facilities because they give rise to economies of scale from the spreading of fixed costs over a larger scale of output or from the economies they can derive from specialization in the production of goods. These economies of scale are usually internal to the firms since unit costs decrease as output increases either because of decreasing marginal costs, the spreading of large fixed costs over greater amounts of output, or learning effects that lower average costs as cumulative output increases. For details, see Junius (1997).

<sup>4</sup> Ernst (1997) suggests three reasons why firms move from local production to international production in which firms controls production assets in more than one country. First, proximity matters and works best at home. Yet, there may be other more important concerns that force companies to shift to international production and to disregard the advantages that result from co-location. Second, some forms of proximity may be less

Concurrent with the need for spatial proximity to production inputs and markets for intermediate and final products have been supporting economic policies from national and local governments, as well as business associations providing networking support for inter-firm cooperation.<sup>5</sup> The adjustments from inward-looking import substitution regimes to outward-oriented and private sector led economic growth strategies during the 1980s to address the so-called first-generation reforms of macroeconomic and sector policies, as well as public sector divestitures. While those reforms enabled the operation of market signals so that resources could be efficiently allocated, the prevailing regulatory, administrative and bureaucratic obstacles to private sector activities continued to weaken the responses of businesses to economic incentives and macroeconomic reforms. As a result, numerous developing countries instituted second-generation reforms during the 1990s to eliminate obstacles in the regulatory and institutional environments that inhibited the expansion of manufacturing activity. The success of these policies has been closely related to the development of clustering activities by transnational corporations throughout developing countries.

In Latin America, as in other developing areas, the more important and economically viable type of cluster has been that associated with transnational corporations such as those involved in electronics and automobile manufacture.<sup>6</sup> But in this region, inputs have tended to be locally sourced, and this type of sourcing has tended to produce greater technology transfers than in other regions of the world.<sup>7 8</sup> Nevertheless, local sourcing in Latin America,

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constraining than others to a redeployment of production overseas; in other words, it may actually be possible to reproduce these particular proximity effects at some of the foreign locations. Third, the link between close cooperation and co-location may be somewhat looser than is normally assumed in the literature. There may thus be alternative and more indirect ways to achieve close cooperation that do not necessarily require physical co-location.

<sup>5</sup> For an analysis of Latin America's macroeconomic policy reforms and their effect on manufacturing activities in the region, see Lord (1998).

<sup>6</sup> The existence of cross-boarder production is explained by modern trade theory on the basis of consumer preferences for variety, which give firms a degree of market power that is often in the form of a monopolistic market structure. When entry barriers are high because of complex R&D requirements, costly overhead investments and the need for cross-national supplier networks designed to guarantee timely access to factor inputs or product components, then an oligopolistic market structure is likely to exist. However, the market structures of many global industries are changing as the original monopolistic or oligopolistic nature of their competition becomes eroded by increasingly complex global production systems made up of strategic alliances among firms (Ernst, 1997).

<sup>7</sup> A significant aspect of globalization appears to be the emergence of regional strategies by the triad of multinationals. Ostry (1992) has noted that the clustering pattern that is emerging among the countries shows each region dominated by investment from a single triad member: the Americas by the United States; Asia by Japan; and Eastern Europe as well as selected African countries by the European Union. That is, the transnational corporate investment flows are themselves shaping three global regions. Though the three major regions are interconnected, each also commands an independent industrial and technological base, vast financial resources, and a developed "domestic" regional market capable of sustaining growth. This provides each region with the economic foundations for independent action. There may be a more global international economy, but that does not end the importance of place -- community, district, nation, or region. Economic strategies and

as in other regions, has been proportionately smaller than in the industrialized countries of North America and Europe. As a result, clusters in Latin America as elsewhere in the developing world have tended to be less integrated into the local business community than in those of North America and Europe.

In the developing countries of East Asia, clusters have generally focused on low-tech industries, whereas high-tech clusters tend to be concentrated in Japan. Nevertheless both types of clusters subdivide the product cycle in each industry into a number of elements, the most important of which are research, design, key producer services, manufacturing, component supplies, marketing, and after-sales service. In recent years, venture capital has gradually reappeared after the capital flight that occurred immediately after the 1997-98 Asian Crisis (Yusuf and Evenett, 2002). Investment in research and development has remained low, and what little has emerged has had few ties with clusters in Japan, the United States and Europe.

## **2.2 National Level Practices: Latin America**

### **2.2.1 Bolivia**

In 2000 the Government of Bolivia initiated an institutional framework to support competitiveness by first establishing a working group chaired by the President of the Republic with members representing key ministries and private sector organizations. One year later a unit was subsequently created depending on one ministry and supported by the Andean Competitiveness Program, which is discussed in detail below in Section 2.5 of this report. This executive unit is now working on developing an institution, including laws and decrees necessary to implement a new strategy on competitiveness. An underlying reason for this structure is sustainability, *viz.*, that it remain in place if the Government changes. Another underlying reason is that the Government of Bolivia views competitiveness as a long-term process, and that participation by all interested parties is mandatory.

The country adopted a two-phase approach that combined the more or less standardized strategy for economic development used in many countries in recent years with recent approaches towards improving competitiveness. The first phase focused on macroeconomic

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responses to new competition are generated within particular places, rather than by world corporations that stand outside a home base.

<sup>8</sup> US firms outsource a substantial share of their production to specialized local suppliers, although they often maintain control over product definition, design, and marketing functions by keeping those functions in-house to ensure protection. This dramatic shift from in-house to outsourced manufacturing has extended to other sectors such as apparel and footwear, toys, data processing, home furnishings and lighting, semiconductor fabrication, food processing, automotive parts, brewing, enterprise networking, and pharmaceuticals (Sturgeon, 1997). In the turnkey network, suppliers tend to focus their business on a fairly narrow set of production activities that nevertheless have wide application in the industry in which they operate to facilitate a switch to new customers. These suppliers also tend to focus on process-specific processes that cut across specific product categories such as food processing, metal machining, semiconductor manufacturing, circuit board assembly, and brewing. As a result, turnkey suppliers tend to be functionally specialized in highly automated manufacturing systems that can be programmed to produce a wide variety of products.

reforms that included the so-called first generation (e.g., broad economic reforms) and second-generation reforms (e.g., regulatory issues).<sup>9</sup> Consensus was achieved across all interested parties. The second phase focuses on firm development through cluster analysis and firm-level assistance. During this phase, which is the current phase, key players did not achieve consensus because the private sector believed that the executive unit, or council, was to be used as an instrument to lobby the Government. Instead, the council was intended to be a platform to make policies. In short, the private sector had adopted a short-term vision of competitiveness.

Bolivia now faces a variety of challenges in achieving its goal of sustaining the competitiveness movement. First, it needs the full commitment of the current Government and the participation of all sectors. Next, key players in Bolivia require an understanding of the various approaches towards competitiveness, and must realize that becoming competitive is a long-term process.

### **2.2.2 Brazil**

The Competitiveness Movement of Brazil ('Movimiento Brasil Competitivo', or MBC, <http://www.mbc.org.br>) was formally established in November 2001 as non-profit organization tasked with carrying out projects to improve the quality, productivity and competitiveness of Brazil. Its mission is to promote the competitiveness of both private and public organizations in order to improve the quality of life for the whole population of Brazil. The MBC was established in order to revitalize and reinvigorate the Brazilian Program for Quality and Productivity and the Brazilian Institute for Quality and Productivity that had been initiated in the 1990s in response to trade liberalization and the consequent global market openings. The MBC intends to shift the focus towards competitiveness to give more autonomy and continuity to this theme, and organizationally to remain independent of changes in government.

The High Council of the MBC is made up of nine members, four of whom represent government agencies, an additional four of whom represent private companies that financially contribute to the MBC, and one representative from the Foundation for the National Award for Quality. The objective of this Council is to establish a strategic vision for the MBC. The Council for Interested Parties ('Couselho des Partes Interessadas') provides strategic advice to the High Council and is comprised of between 15 and 25 representatives of civil society. The Fiscal Council ('Conselho Fiscal') and Management ('Directoria') are the other two groups that complete the MBC's organizational structure. The current portfolio of projects reflects a mix of institutional and sector activities. For example, the MBC is working on a national network to promote the quality and competitiveness of SMEs, evaluation of the country's oil and natural gas industries, certification of irrigated agriculture in the Preto River, and organizational support for MBC to develop instruments for innovation. Projects that are in the pipeline include: promotional trademarks (or branding) at the regional level, dissemination of concepts of competitiveness, benchmarking for public

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<sup>9</sup> For a discussion on the extension of first and second-generation type reforms to competitiveness, see Suarez and Oliva (2002).

administration, management program for distributors of electrical energy and development of technologies for sustainable ecotourism.

### **2.2.3 Colombia**

Colombia is one of the five countries (Bolivia, Ecuador, Peru and Venezuela being the other four) participating in the Andean Competitiveness Project described in detail in Section 2.5 below. As part of that project, the Institutions for Competitiveness in Colombia (ICC) project was established in mid-2000 with the objective of assessing the effects on competitiveness of institutions serving as intermediaries among firms or between firms and the public sector in Colombia and more broadly, in the Andean Community and elsewhere in Latin America. The project was designed to identify and analyze cases of institutions in Colombia that have had a positive impact on the competitiveness of particular firms and industry clusters, and similarly, assess best practice institutions for competitiveness in other Latin American countries that can serve as benchmarks for the Andean Community (for details on the ICC, see Porter, Emmons and Brenes, 2002).

The ICC project took place during a period of approximately 18 months and adopted the demand-side (user) approach to services offered by institutions, rather than a supply-side (provider) approach. The project based its research on face-to-face interviews and held several workshops to exchange views and disseminate findings. There are several general and specific lessons learned resulting from this project. For example, in general researchers found that managers of companies that participated in surveys found that although numerous institutions exist in Colombia that promote competitiveness, only a small number of those institutions provided valuable and cost-effective services that enhance a firm's productivity and competitiveness. Second, managers stated that government-led programs raised the awareness of the issue of competitiveness throughout the country, but did not necessarily offer concrete results. When asked to name specific activities offered by institutions that were useful, managers named those related to certification and quality assurance, export development, research and development, workforce training, information and coordination, management development and access to credit. Factors influencing firm-level competitiveness vary according to firm size, ICC researchers discovered. SMEs often cited limited access to credit as hindering their productivity and competitiveness, and expressed concern over inadequate services at affordable prices tailored to their needs. Large-size firms, in contrast, were more self-sufficient than smaller-size companies.

Third, the ICC project found that certain institutions that could be considered in international best practice were characterized as those having substantial private sector role and that link services to payments, offer voluntary affiliation and focus on a set of activities and clients. Regarding specific activity areas, such as workforce training and management education, researchers found that the role of universities should be developed by way of formal mechanisms, that the Government training program should customize its activities, and that greater availability in programs related to international marketing, business administration, quality analysis and technology should be encouraged. Other recommendations were made regarding access to credit, R&D and information and coordination. Likewise, survey findings revealed that the Government of Colombia could help to promote competitiveness by streamlining public sector competitiveness institutions, and facilitating information flows.

For the private sector, survey findings encouraged the establishment of groups of firms with common interests to provide services to members of their respective groups, fortify existing economic clusters and promote upcoming ones, and become involved in co-financing schemes with the public sector. Finally, researchers made recommendations to institutions of competitiveness, which included studying benchmark cases of international best practice and developing appropriate standards of performance. Follow-on work to the ICC Project has been proposed that includes additional research from the supply perspective, more extensive research on best practice in Colombia and elsewhere in the Andean community and the development of performance measurement metrics for institutions of competitiveness.

#### **2.2.4 Mexico**

Mexico has regional and state competitiveness initiatives rather than national-level initiatives, which has resulted in significant differences among the cluster types and their effectiveness throughout the country. At the national level, Solleiro, J.L. et al (undated) carried out a survey of small and medium size enterprises (SMEs) in 1998 to assess the effectiveness of industrial policies, and found that the lack of an industrial policy for specific sectors undermined the effectiveness of institutional and other channels of interactions that are required for the effectiveness of clusters.<sup>10</sup> While it is generally recognized that competitiveness initiatives need to be focused at the sub-national level (Webster and Muller, 2000), there remains a lack of comparability among competitiveness initiatives at the state and regional level that undermines the overall effectiveness of the individual initiatives.

Among the most significant, though not always successful, regional initiatives in Mexico are those of the following industries: (a) the computer and telecommunications industry in Guadalajara; (b) the auto industry in Puebla, Ramos Arizpe and Aguascalientes; (c) large-scale assembly of television sets in Tijuana; and (d) the Textile City project in Cuernavaca. In the states of Chihuahua and Jalisco important competitiveness initiatives have been undertaken with results that have been superior to those of most other states of Mexico.

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<sup>10</sup> Constraints to effective clustering by SMEs were classified into the following areas: (1) problems related to education, (2) problems related to fiscal policy, (3) Problems related to information, (4) Problems related to specific development programs, (5) Problems related to financing, (6) Problems related to technological assistance, (7) Problems related to commercialization, (8) Problems related to legislation, and (9) Problems related to the environment surrounding the enterprises. No ranking was provided on the relative magnitude of these constraints.

### *Electronics industry in Guadalajara*

Guadalajara, the second largest city in Mexico, is commonly called "Silicon Valley of Mexico" or "Silicon Valley in the South". Its attraction to companies is based on (a) the existence of technical colleges in the area; (b) appropriate transportation and communications infrastructures and the establishment of industrial parks; (c) policies adopted by the state and local governments to simplified operating procedures and provide tax incentives to industries; and (e) a favorable living environment. Economic policy initiatives have also contributed to the growth of foreign investment in Guadalajara. First, the government introduced far-reaching reforms to the law on foreign investment in 1989 that stimulated capital inflows. Second, the introduction of the North America Free Trade Agreement (NAFTA) in 1994 lowered tariffs and other trade barriers to investors in the member countries, and attracted investment from companies based in Canada and the United States to Mexico. Finally, Mexico's currency and financial crisis in 1994-95 caused the Mexican peso to plummet, with the result that wages and other local costs fell sharply for foreign investment.

Altenburg and Meyer-Stamer (1999) point to three important clustering characteristics in Guadalajara. First, electronics corporations have transferred to the area not only simple assembly operations but also automated and technologically complex stages of production, though research and development (R&D) is still being carried out in the parent plant. Secondly, Guadalajara is increasingly attracting internationally established contract manufacturers that provide a broad range of assembly services for brand-name corporations. Third, collective action on the part of cluster firms is increasing, as exemplified by two active business associations at Guadalajara which are used by electronics transnationals to exchange information, promote a "Silicon Valley" image, and lobby to convince local authorities to provide investment incentives for additional suppliers from abroad.

Despite these advances the competitiveness of the area is being undermined by inadequate supplies by local firms. In a series of interviews conducted by Kagami and Kuchiki (2001), found that contract manufacturers are increasingly relying on Asian imports for their parts. In an effort to remedy this shortage the Mexican government has established a system that supplies parts manufactured in Mexico and foster SMEs through an organization called Suppliers Development for the Jalisco Electronics Industry (CADELEC). The role of this organization is to collect information on parts to service the information needs of OEMs, contract manufacturers and suppliers.<sup>11</sup> Nevertheless, with the abolition of the maquiladora program in 2001, companies pay tariffs on parts imported from countries that are not NAFTA members. Electronics corporations are therefore beginning to look to Asia for their production bases.

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<sup>11</sup> CADELEC is a match-making organization to introduce parts suppliers to CMs and OEMs in Jalisco. This industry association, initiated by Lucent Technologies and formed with the cooperation of IBM, HP, INTEL and NatSteel, aims to construct a system that can ensure supply of high-quality parts to respond to the needs of OEMs and CMs in Guadalajara. CADELEC began operation in February 1998. CADELEC was established with 1/3 of the funds from the above companies, 1/3 from the Jalisco state government, and 1/3 from the industrial integration program (program based on the federal government's Fund for Small and Medium-scale Enterprises, the Mexican Chamber of Industry Council and the United Nations Development Program).

### *Automobile Industry in Puebla*

The cluster of automotive component companies near Puebla has supported Volkswagen's large assembly plant in that area. Before the introduction of NAFTA, that automobile plant and others in Mexico were protected by import substitution policies and regulations on local content requirements and foreign entry requirements for transnational firms. Local suppliers depended on technology licensing and joint venture partners from abroad to provide the simple components required of the low-end Beetle models being produced. After NAFTA, the elimination of import-substitution policies led to structural adjustments in the industry shifted production to the New Beetle largely directed towards foreign markets. Concurrent with this shift was the replacement of domestic component suppliers with more competitive foreign. As a result, few domestic component companies remain in the automobile clusters in Puebla and elsewhere in Mexico.<sup>12</sup>

### *SMEs in Chihuahua and Jalisco*

Several efforts have been made to improve the competitiveness of domestic suppliers throughout Mexico, and among the most successful efforts to date have been the initiatives in the states of Chihuahua and Jalisco under the Program of Industrial Integration (PII).<sup>13</sup> The program established Centers for Suppliers Development in each state to identify sub-contracting opportunities, improve the capabilities of sub-contractors, and provide technical support, training and loans when needed.

Ceglie and Dini (1999) have argued that the main reason for the success of the program lay in the financial participation of the main-contractors to the subcontractors, as well as the contribution of their own technical personnel to the Centers. Three lessons have so far emerged from the program:

- First, the effectiveness of the program was largely due to the fact that the subcontracting exchange scheme linking the demand and supply of subcontracting services have focused on technical support initiatives trying to address the basic problems of capacity failure and difficulty in establishing relationships, rather than attempting to overcome possible information failures between the demand and supply of subcontracting activities through such activities as, for example, the creation of a databank on demand and supply for contracting services.
- Secondly, the Centers have been able to achieve significant economies of scale that lowered input costs and gave rise to new investments by the participating subcontractors to meet the demands by the lead firms.

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<sup>12</sup> For details, see Altenburg et al. (1998).

<sup>13</sup> The program was created by the Mexican Confederation of Industrial Chambers (CONCAMIN) and the Fundación para la Transferencia Tecnológica a la Pequeñas y Medianas Empresas (FUNTEC), along with the United Nation Development Programme (UNDP) and United Nations Industrial Development Organization (UNIDO).

- Finally, the Centers have coordinated the supply of subcontractors and helped to establish horizontal networking among them, thereby organizing and improving the offers made by the group of subcontractors.

### **2.2.5 Bermuda**

In 1992 the Government of Bermuda established a Commission on Competitiveness for the country's two main activities, tourism and foreign trade. A Tourism Policy Committee was created under the Commission to promote the tourism industry, which at that time faced a number of problems such as the non-profitability of hotel businesses, the adverse effects of labor disputes, the industry's inherent seasonality, reliance on the US market, and the lack of international price competitiveness of many tourism products (World Travel and Tourism Council, 2002).

To overcome these deficiencies the Committee proposed several initiatives, the most important of which were (a) a shift in the Department of Tourism's role from promotion to strategic planning and product policy, (b) the creation of a Tourism Education Council to coordinate education and training, (c) product enhancement through partnership activities with Bermuda's Chamber of Commerce, (d) creation of a Task Force on Employment to improve labor employment relations, (e) providing more value for the prices paid by tourists, and (f) lengthening the tourism season.

Despite these wide-ranging efforts, however, few changes were in fact implemented because of the likely political opposition that the generation of fundamental changes in the country's tourism industry could have created for the Government. As a result, Conlin (2000) believes that little if any innovation was in fact introduced into the tourism industry by proposed competitiveness program. Subsequently, on the FRONTIER was contracted to help shift the industry's strategic positioning, facilitate cooperation among government, corporate and labor leaders, and reform the regulatory environment. An independent assessment of this initiative has yet to be undertaken.

## **2.3 National Level Practices: Middle East and Africa**

### **2.3.1 Egypt**

The absence of a strong small and medium enterprises (SME) sector in Egypt, and in particular medium-size enterprises, has proven to be a major structural constraint in terms of private sector competitiveness. In Egypt, as in many developing countries, most SMEs remain involved in traditional activities with low productivity and value-added, and that offer products and services of inferior quality with little technological dynamism aimed mainly at domestic markets. While some of these enterprises may prove to be economically viable over the long term, the majority is facing extinction with import liberalization, changing technology and the growing demand for higher quality modern products. In an attempt to counter these recent trends, the Government of Egypt in conjunction with the Canadian International Development Agency (CIDA) and the International Development Research

Center (IDRC) recently launched a new competitiveness project with a focus on SMEs. The objective of the project is to shift the focus of the SME sector away from the limited local market while maintaining the socio-economic balance that these types of businesses provide. Therefore, while project activities will focus on economic soundness and efficiency, especially in the long run, social considerations such as poverty alleviation and income generation strategies will also be addressed. The Ministry of Foreign Trade (MOFT), the lead agency for the project, has chosen seven policy areas for the project to address competitiveness: (i) innovation-enhancing measures that include research and development, technology acquisition and capacity building; (ii) financial services; (iii) business development services; (iv) supporting clustering and networking of marble, tricot, furniture and aluminum utensils industries; (v) foreign direct investment (FDI) and inter-firm linkages; (vi) streamlining of the legal and regulatory framework; and (vii) SME export promotion in selected high-value activities where they have potential competitive advantage.

### **2.3.2 Jordan**

Competitiveness as a discipline was originally introduced in Jordan in 1992. The Government of Netherlands was the donor that initiated the project, and planned a regional approach to be implemented in phases. The first phase was to identify each of the core countries (Jordan, Israel, Palestinian National Authority and Egypt) respective to competitiveness, and encourage the economies to integrate and thus promote peace in the Middle East. In 1997, USAID Jordan continued with the funding of the project, and instituted a specialized unit in the Ministry of Planning.

The project follows the Porter cluster approach, and focuses on ten clusters, as follows: (i) Dead Sea cosmetics, (ii) pharmaceuticals, (iii) textiles, (iv) cement and construction, (v) mining, (vi) tourism, (vii) banking services, (viii), information technology, (ix) agriculture in the Jordan Valley, and (x) olive oil. Higher education, qualified industrial zones and a survey of Jordanian expatriates abroad were also included as areas to be studied. In addition, the project aims to create a channel of cooperation and coordination between the public and private sector, disseminate information via workshops, maintain a website and publications that are used by Jordanian embassies overseas and other public sector institutions, e.g. the Jordan Investment Board, and follow-up on Jordan's competitiveness status and reporting at the World Economic Forum. At the moment, the project will continue with more studies and surveys, and is currently pursuing the establishment of a competitiveness observatory, taking example from the French experience in this area.

## **2.4 National Level Practices: Asia**

### **2.4.1 Thailand**

In Thailand there are six geographic regions of clusters with distinct patterns: (1) Bangkok has multimedia sub-clusters related to gaming, animation and mobile/Web graphics; (2) the northwest area around Chiang Mai and Lampang has clustering in ceramics, eco-tourism and handicraft; (3) the western provinces have clusters in high value-added agriculture; (4) the central region around Nakhon Ratchasima has clusters in silk processing and ceramics; (5)

the south-central area around Janthaburi has gem clusters; and (6) the south-western region around Phuket has tourism clusters.

Additionally, the Thai Thailand Automotive Institute has recently formulated a masterplan for the industry that relies on a cluster-based development process (Vanichseni and Tiasiri, 2002). It based the masterplan on the participation of private and government stakeholders, the systematic consideration of all elements of the production and sales process, and the development of a strategy for developing the competitiveness of the industry. An important part of that process was the establishment of an organization and institutional framework to coordinate the masterplan.

### **2.4.2 Singapore**

Singapore established the Committee on Singapore Competitiveness (CSC) after sharp devaluations of currencies elsewhere in the region undermined the country's exchange rate competitiveness. The CSC was charged with formulating strategies and policies to make Singapore competitive over a 10-year horizon by transforming the country into a knowledge-based economy capable of producing strong technological and entrepreneurial initiatives. For a small, open economy such as Singapore, this transformation has necessitated a focus on knowledge-based economic activities such as research and development, innovation, product and service design, process and marketing in the real and financial sectors for the regional and global marketplace, and public sector support of government-linked companies (GLCs) and small and medium enterprises (SMEs) (Lim, undated).

The recommendations of the CSC were presented in the 1998 Competitive Report. It provided for a series of measures aimed at key sectors such as manufacturing, finance, and telecommunication that would establish Singapore as a total business centre for the so-called twin engines of growth from manufacturing and services activities (Committee on Singapore Competitiveness, 1998). These activities were to be based on cluster initiatives that would provide enterprises with access to various suppliers, technology, infrastructure and support services through two separate initiatives: one based on Manufacturing 2000; the other on the International Business Hub 2000 Program.

Manufacturing 2000 aims to develop industry clusters for key sectors, including that of electronics by upgrading capabilities along the value chain of each industry cluster, including product and process development, production, engineering and strategic marketing. The model for Singapore's continued role as a manufacturing base is value-chain analysis in which modern manufacturing and services are integrated and complementary activities (Lim, undated). The strategic goal is for manufacturing to reach 25 per cent of GDP and absorb 20 per cent of the labor force.

In contrast, the International Business Hub 2000 Program focuses on the development of Singapore as a hub for business, finance, distribution, information and communication. The basis for this hub strategy is the concept that key economic activities such as finance, shipping, air transport, telecommunications, and information are becoming concentrated in a few strategic nodes around the world (Lim, undated). Singapore therefore aims to be the

regional business hub for trading, financial, transport and telecommunication centers, grounded on well-developed infrastructure, institution and human resources.

Based on the recommendations of the CSC in its Competitiveness Report, the Economic Development Board (EDB) launched the so-called Industry 21 initiative, which is a 10-year program to develop Singapore into a global hub of knowledge-driven industries in manufacturing and traded services with emphasis on technology, innovation and capabilities. “Industry 21” targets the development of industry clusters for electronics, chemicals, engineering, life sciences, education and healthcare, headquarters, communications and media and logistics.

The major constraint to improved competitiveness in Singapore is the lack of innovative entrepreneurs. While Singapore has ranked near the top of global competitiveness indicators in some studies (IMD, 2002), it has ranked near the bottom in others because of its lack of entrepreneurial business enterprises (Global Entrepreneurship Monitor, reported in Low, 2001). Although Singapore has been successful in its human resources development (HRD) through its basic education and continuous training programs, there has been an absence of any cultivation of risk-taking and innovative behavior on the part of entrepreneurs (International Herald Tribune, 24 March 2001, reported in Low, 2001). Recognizing this deficiency, the government has responded by shifting its education system to promote to promote creativity and innovation, liberalized and broaden the financial sector to augment bank and equity-based funding of capital investments. One other policy initiative that has resolved the scarcity of entrepreneurs in the short-term but perhaps created a basis for future problems is the liberalization of immigration regulations for so-called foreign talent for middle-level management and professionals. This dependence on foreign talent could undermine efforts to promote innovative businessmen from domestically sourced talent and eventually lead to new and politically sensitive employment problems for the country.

## **2.5 Regional Practices**

### **2.5.1 Andean Competitiveness Program**

The Andean Competitiveness Program (ACP) ([www.cfa.com](http://www.cfa.com)) is a multi-year program to be carried out in conjunction with Andean research institutions, private sector representatives, other members of civil society, and the governments of Bolivia, Colombia, Ecuador, Peru, and Venezuela. The first phase of the project (December 1999-February 2002) was initiated as the ACP and underwritten by the ‘Corporación Andina de Fomento’ (CAF), or Andean Development Corporation (ADC) and administered by the Center for International Development (CID) of Harvard University ([www.cid.harvard.edu/andes](http://www.cid.harvard.edu/andes)). The objective of this phase was to reduce poverty, income disparities, and environmental degradation through increased competitiveness. The ACP set up offices in each member country that interacted with local research institution and the CID team in three distinct program components: (i) microeconomic (firm-level) interventions including cluster approach and institutional reform; (ii) economic policies, (iii) environment and sustainable development. The output of this phase of the project included numerous working papers that provided a global vision and related experiences of countries and alternatives to improving competitiveness in the Andean

community, which in turn, provided the basis for policy discussions and many agendas for promoting competitiveness. For example, at the microeconomic level, research was conducted on soy and quinoa in Bolivia, cotton in Peru, software in Venezuela and agro-technology in Ecuador. In the area of economic policy, research was conducted in competitiveness indicators, FDI in Andean countries and information technology. Lastly, in sustainable development, papers were prepared on dependence on natural resources in Bolivia and Venezuela and the environmental cost of doing business in Ecuador, Colombia and Peru.

Moreover, this first phase stimulated plans at the national level and lay down the groundwork for policies to promote clusters at the regional level. Some examples of success stories include the establishment of the National Agenda for Competitiveness in Ecuador, the System for Productivity and Competitiveness in Bolivia and the initiative to design the National Competitiveness Plan for Peru. Others include the adoption of competitiveness indicators by Colombia and the development of a new methodology by this country's national statistical office, the recognition of administrative barriers to investment in Venezuela that initiated a project with the World Bank, and the formulation of a proposal on the Agreement on Competitiveness of Soy Production in Bolivia that was presented to that government by local producers.

The ACP initiated its second phase in March 2002 with the objective of continuing to support competitiveness initiatives in Andean countries. During this phase the areas of concentration of activities shifted to five areas. The first area of competitiveness strategies is aimed towards countries with a high dependence on natural resources, and mainly includes policy research to address issues such as fiscal and financial vulnerability due to external shocks, institutional weaknesses and enterprise policy. The second is the promotion of clusters, which includes activities to improve export performance, attract investment and generate employment of existing clusters. The third area is improvement in the business climate that deals with administrative barriers that impede entrepreneurship and innovative processes. The fourth deals with innovation, technology and productivity by strengthening links between the productive sector and research and development institutions, and identifying opportunities for regional and global e-commerce. The last area addresses institutional strengthening by providing advisory services, training and capacity building through analytical tools to promote competitiveness and the exchange of experiences among countries in the Andean region.

### **2.5.2 CLACDS**

The *Centro Latinoamericano para la Competitividad y el Desarrollo Sostenible* (CLACDS, or the Latin American Center for Competitiveness and Sustainable Development, <http://www.incae.ac.cr/ES/clacds/>) is a research-based institution housed within the *Instituto Centroamericano de Administración de Empresas* (INCAE, or the Central American Business Administration Institute). Its Steering Committee comprises advisors such as Michael Porter, and competitiveness is the theme of one of its three departments (administration and sustainability being the other two). CLACDS was established in 1996, and during the first years focused on broad development themes such as support for implementation of the Central American Agenda for the 21<sup>st</sup> Century. This agenda represents

a long-term strategy for the insertion of Central American countries into the global economy. It then branched out into more specific topics including the Central American customs initiative, strategies to attract FDI, and promotion of regional tourism. Recently, CLACDS identified five strategic areas for the Center's work: (i) follow-up on regional and national competitiveness agendas, (ii) rural development, (iii) implications of free trade agreements, (iv) competitiveness of SMEs, and (v) utilization of digital technology for community development. The work in these five areas combines competitiveness, environmental and social considerations.

In the area of competitiveness, CLACDS has worked with formally established competitiveness initiatives in Guatemala, Honduras, El Salvador, Costa Rica, Nicaragua and Panama. Outside the region, it has worked in conjunction with the Andean Competitiveness Program to support the formation of clusters in those participating countries, and with other efforts in Argentina, Croatia, and Thailand. Within its Agenda for 21<sup>st</sup> Century Program, CLACDS currently is working on ten research projects related to competitiveness (for details on each program, see

[http://www.incae.ac.cr/ES/clacds/proyectos/competitividad/innovacion\\_tecnologica.shtml](http://www.incae.ac.cr/ES/clacds/proyectos/competitividad/innovacion_tecnologica.shtml)).

The projects include broad themes such as competitiveness indicators, the business environment, and the legislative background needed to compete effectively. More specific topics include agriculture competitiveness in Central America, the case of Nicaragua in attracting FDI and the comparison of technology initiatives in Israel, Taiwan and Ireland. Research papers on the competitiveness of Central American countries (such as the 'Analysis of the Global Report on Microeconomic Competitiveness of Central America' and specific industries in countries (e.g., the coffee industry in Nicaragua and the sugar industry in El Salvador) are available on CLACDS' Web site.

In its SME Program, CLACDS is working to develop the medical cluster in Costa Rica, and has sponsored the 'Observatorio Pyme' ([www.pymonline.net](http://www.pymonline.net)), a project that aims to act as an electronic source of information for entrepreneurs at the business level and also for studies such as profiles on the textile sector in Central America. In the field of digital technology, CLACDS has worked together with INCAE to promote and establish regional, national and community programs that use digital tools in the learning process. CLACDS is also establishing links with private sector organizations.

## **2.6 Conclusion**

Competitiveness programs by non-USAID sponsors were initiated in developing economies as early as the 1980s. Such programs were activated at the national level, often with international donor support, and then extended to regional and local programs. In Latin America, the ACP has dominated competitiveness programs in the Andean region comprising Bolivia, Colombia, Ecuador, Peru and Venezuela. In the Middle East, Jordan initiated a competitiveness program in the early 1990s that has since stagnated, and Egypt just recently began a program with emphasis on SME development. Most Latin American countries have National Competitiveness Councils, which have led to the development of research institutes and commercial private companies specializing in competitiveness. Those in the Middle East tend to have competitiveness units in key government ministries.

Few competitiveness programs were established for a specific purpose other than ‘improving competitiveness’, or ‘raising the ranking of competitiveness indicators’. Brazil offers an example of initiating competitiveness programs to improve already-existing initiatives on quality and productivity. Those initiatives had been established to respond to trade liberalization and consequent global market openings. In broad terms, competitiveness programs in developing countries have adopted the Porter-style cluster approach or a combination of cluster analysis and economic policy reforms at both the macro and regulatory levels. Box 2.1 highlights key lessons learned from the foregoing analysis of non-USAID competitiveness initiatives in developing countries.

**Box 2.1**

**Key Lessons Learned from Non-USAID Competitiveness Initiatives in Developing Countries**

1. From an organizational point of view, the establishment of unit, council or other type of institution that will remain if the Government changes is important to sustainability of any competitiveness program.
2. Both public and private sectors must fully commitment to the fact that achieving competitiveness is a long-term process.
3. Although numerous institutions may exist in a country that promote competitiveness, only a handful are likely to provide valuable cost-effective services at the firm level.
4. Government initiatives may raise awareness, but they do not always lead to tangible results.
5. Constraints to becoming more competitive at the firm level, as dictated by firm size, are similar to operating more efficiently in the business environment (e.g., SMEs are likely to have limited access to credit than large-size firms).
6. Institutions that are considered in international best practice are characterized as having a substantial private sector role.

Clusters of transnational corporations have been successfully established, for example in Mexico, but entry barriers have made it difficult for local firms to establish themselves as suppliers to transnational firms. The main weakness of these transnational clusters has been the small technological spillovers that accompany their operation. The lessons that need to be promoted are therefore related to targeted cluster policies for local content requirements to effectively promote the capacity of local suppliers to provide direct and indirect materials and services to multinationals.<sup>14</sup> Concurrent with these needs are transparent and nondiscriminatory investment regulations, a generally business-friendly policy framework and a properly functioning infrastructure, all of which are basic to attracting investment into clusters. In Latin America more than in developing Asia and the Middle East, fiscal incentives by federal, state or local governments have been effective in promoting clusters, but open or disguised subsidies have given rise to distortions in the economy.

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<sup>14</sup> As an exception, local producers in Asia have successfully upgrade their technologies. To illustrate this case, Altenburg and Meyer-Stamer (1999) point to the electronics industry in Penang, Malaysia, where a production site for transnational corporations to assemble consumer electronics and their components for export has been developed. Since the early 1980s local SMEs have developed linkages with transnational corporations in machine-tooling, plastic injection, and subcontracting of PCB assembly, and there are at present several local suppliers offering complex machinery and plastic casings inputs for consumer electronics.

## 3. Industrial Country Experiences

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### 3.1 Background

Competitiveness initiatives of industrialized countries that were reviewed as part of this report vary widely in terms of their focus, start dates and activities. For example, Canada has no competitiveness council or agency specialized in that theme, yet relies heavily on government organizations at both the national and provincial levels to promote competitiveness directly with companies or indirectly through policy programs. Likewise, the European Union (EU) has no such council, although member governments often do such as Ireland.

Irregardless of the institutional structure, competitiveness is addressed through some type of program in all industrialized countries reviewed. Industrial economies are more advanced than developing economies in terms of technological focus and, as expected, policies as they relate to stages of economic development. For example, in Latin America, competitiveness programs often address a combination of macro and microeconomic policies, cluster-based approached and institutional changes. In Canada, competitiveness initiatives tend to focus on innovation, such as cutting-edge technologies and knowledge management.

A similar pattern exists in the United States, where state and regional authorities have played a major role in promoting technology-based industries using cluster initiatives. In contrast, initiatives in Japan are increasingly focusing outside the country, as Japanese multinationals spread to new regions like China. This development has created a symbiotic relationship between the multinationals and China's expansion of industrial parks to attract industrial investment and promote industrial agglomerations.

### 3.2 United States

The most comprehensive effort to identify industry clusters in the United States is perhaps the Cluster Mapping Project being carried out by the Institute for Strategy and Competitiveness at Harvard University. The so-called meta-study pools information from a large number of sources to collect literature on clusters, gather a variety of quantitative and qualitative data about clusters in a uniform template, and examine cluster structures, evolution and competitiveness (van der Linde, 2003).

At present the meta-study database contains over 150 clusters for the United States, though the Council of Competitiveness in Washington, DC has identified 244 types of clusters within 41 broad clusters (Porter, 2001). The meta-study is, however, more detailed in coverage insofar as information on each cluster is presented within a template that is divided into five sections: (1) cluster biographical information; (2) location; (3) indicators of competitiveness; (4) conditions related to factors, demand, related and supporting industries, and firm strategy and rivalry, i.e., the so-called diamond characteristics; and (5) evolution of the cluster. The degree to which industries within these clusters are linked to one another has

been measured in terms of the relative magnitude of the value added of each industry's factor inputs by Bergman, Feser and Sweeney (1997).

### **3.2.1 National Initiatives**

The US Congress established the bi-partisan Council on Competitiveness in the early 1990s to address key constraints to US competitiveness and productivity growth. Under the Omnibus Trade and Competitiveness Act of 1988, the Council was charged with analyzing information on the competitiveness of US industries and business and trade policy; creating an institutional forum from which to identify economic problems inhibiting the competitiveness of US agriculture, business, and industry; and developing long-term strategies to address constraints.<sup>15</sup> Between 1998 and 2001 the Council evaluated US clusters for five regions.<sup>16</sup> Each region was examined in terms of its economic performance, business environment, competitiveness of its clusters, and the results were published in Porter, M.E., Monitor Group, ontheFRONTIER, and Council of Competitiveness (2001). More broadly the Council has continued to track key indicators of performance to gauge the innovative capacity and global competitiveness of the US economy (Porter and Opstal, 2001).

### **3.2.2 State and Regional Initiatives**

In general, clusters in the United States have tended to focus on regional or urban initiatives. The first state-level cluster programs were organized in the early 1990s in Arizona and Oregon. These programs used existing trade or business associations to represent the cluster, as illustrated by Oregon's software cluster and North Carolina's hosiery cluster. Regional clusters were organized in the mid-1990s to aid underdeveloped rural regions that included West Virginia's Appalachian by Design, Oklahoma's Northeast Oklahoma Manufacturers Council in Okmulgee, and southeastern Ohio's ACENet (National Governors Association, 2002).

Although some studies have identified key industries where the United States can compete globally (see, for example, McGraw Hill/DRI, 1996), the basis for such competitiveness has been at the regional level. For example, in the United States technology-oriented clusters have been successfully developed where large investments have been made in areas with existing expertise in technology. These areas include, among others, the states of North Carolina and Michigan through their technological research in universities. In North Carolina, the Research Triangle Area provided the necessary foundation for the successful development of the biotechnology industry, and in Michigan the state government established the Michigan NextEnergy Zone to develop alternative energy and fuel clusters with the research support of the nearby Michigan State University (National Governors Association, 2002). Thus location advantage within regions has also been used as a basis for establishing clusters, as for example in New York where the Empire State Development

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<sup>15</sup> For details see, [www.compete.org](http://www.compete.org).

<sup>16</sup> The regions were Atlanta-Columbus, Georgia; Pittsburgh, Pennsylvania; the Research Triangle Area of North Carolina; San Diego, California; and Wichita, Kansas.

(ESD) association provide marketing information for suppliers to locate near large customers.

The following lists some of the major state and local-level initiatives in the United States, though the list is by no means exhaustive:

**Arizona:** The Omnibus Economic Development Act directing the Department of Commerce (DOC) to assess Arizona's business climate and to draft the first statewide strategic economic development plan. In the early 1990s SRI produced the Strategic Framework to identify the state's key clusters. Based on that framework, the state adopted the Governor's Strategic Partnership for Economic Development (GSPED) to enhance the competitiveness of the state's economy through export-driven industry clusters.<sup>17</sup>

**California:** A statewide strategy with a regional focus has been undertaken through the so-called *Collaborating to Compete in the New Economy*.<sup>18</sup>

**Massachusetts:** Massachusetts undertook a statewide analysis of its economic base in which regional clusters were identified. The results of the analysis led to the so-called Choosing to Compete statewide initiative that has focused heavily on export-oriented activities of the state, specific regional economies, and what economic development are needed to improve the state's export industries.<sup>19</sup>

**Minnesota:** Minnesota has used industry clusters as part of its regional planning strategy. In the southeastern part of the state, clusters have been widely used for promoting the competitiveness of plastic products, software, industrial machinery and processed foods (Munnich, Bau, and Berkwitz, 1996); in the northeast, they have been used to promote the competitiveness of forest products, tourism, health services and information technology (IT) (Munnich et al., 2001). Similar studies were undertaken for northwest and southwest Minnesota (Munnich et al. 1968a and 1968b).

**Oregon:** A state-wide strategy based on industry cluster development in region has been promoted through the so-called Oregon Shines initiative.<sup>20</sup>

There are also industry cluster development policies in the states of Colorado, Connecticut, Florida, Illinois, Kansas, New York, Rhode Island, and Texas.<sup>21</sup>

### 3.3 Canada

Canada has no competitiveness council or public agency specialized in the area of competitiveness. Nonetheless, a multitude of initiatives exist and are active at the national and provincial levels and also in the private sector. The common theme among these initiatives is that rapid economic growth comes in waves and is linked directly to major

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<sup>17</sup> For details, see <http://www.commerce.state.az.us/gsped/>

<sup>18</sup> See <http://commerce.ca.gov/tca/pdfs/detail/ersi/ESPneweconomy.pdf>

<sup>19</sup> See <http://www.kiasia.org/download/competitiveness/6Massachusetts1.pdf> and

<sup>20</sup> See <http://www.econ.state.or.us/opb/orshines.pdf>

<sup>21</sup> For details, see Rosenfeld (1995).

**Table 3.1**  
**Industrial Country Clusters in Metastudy Database**

Country	No. of Clusters	Percent Distribution
Andorra	2	0.3%
Australia	4	0.6%
Austria	7	1.1%
Belgium	1	0.2%
Bermuda	1	0.2%
Canada	13	2.0%
Denmark	34	5.1%
Finland	11	1.7%
France	96	14.5%
Germany	31	4.7%
Hong Kong	11	1.7%
Ireland	2	0.3%
Israel	6	0.9%
Italy	72	10.8%
Japan	4	0.6%
Netherlands	6	0.9%
New Zealand	10	1.5%
Norway	1	0.2%
Portugal	4	0.6%
Singapore	3	0.5%
Spain	6	0.9%
Sweden	5	0.8%
Switzerland	13	2.0%
United Kingdom	168	25.3%
United States	153	23.0%
Total	664	100.0%

Source: Institute for Strategy and Competitiveness, Harvard Business School (work in progress).

technological changes, fueled by a few leading-edge industries. Another common theme is that potential growth benefits from new technology are enormous, but go mostly to countries and industries that are first adopters and not followers.

### 3.3.1 National Initiatives

#### Industry Canada (<http://www.ic.gc.ca>)

-- Industry Canada is the main Government agency that directly addresses issues related to competitiveness, and works both at the policy and enterprise levels. Its mission is to foster a growing competitive, knowledge-based Canadian economy by improving conditions for investment, Canada's innovation performance, and increase Canada's share of global trade to build a fair, efficient and competitive marketplace. Program areas include developing industry and technology capability, fostering scientific research, setting telecommunications policy, promoting investment and trade, promoting tourism and small business development, and setting rules and services that support the effective operation of the marketplace.

Three directorates, or 'sectors' within Industry Canada work on competitiveness-related issues. The first, the Industry Sector, helps Canadian industry and businesses to compete, grow and create jobs in the knowledge-based economy. It facilitates the delivery of industrial and related policy analyses and strategies designed to promote the global competitiveness of Canadian industry. This sector also offers business services and information products, such as Strategis (<http://strategis.ic.gc.ca>). The second, the Corporate Services Branch takes the lead for Industry Sector on cross-sectoral issues. Areas of service include: business planning, strategic issues and policy planning, briefing and correspondence, parliamentary affairs, connectedness and on-line presence, client outreach such as communications, marketing and the development and production of information products, and program policy and management.

Finally, the Industrial Analysis Center encourages the development of economic research and policies. The Center is conducting research on competitiveness issues facing Canadian industry. This includes an examination of features that attract and encourage investment in

Canada and reviewing trade issues, such as the globalization of markets, various methods of securing access to markets, and international trade opportunities. Other research is being carried out on marketplace framework issues, including the need for regulations that will encourage proper industrial and economic growth. The Center also undertakes studies on the knowledge-based economy. These include the performance of service industries, the role of manufacturing outsourcing, the skills required for innovation, as well as various electronic commerce issues, all fundamental elements in today's global markets.

**International Development Research Center (IDRC)** (<http://network.idrc.ca>)-- The Trade, Employment and Competitiveness (TEC) Program within the IDRC assists developing countries in their efforts to participate more effectively in the global economy. It supports research to articulate and advance the interests and bargaining capacities of developing countries in trade negotiations, and to ensure that their domestic policies are coherent with international trade commitments and development objectives. To date, projects pursued or being developed under this initiative have been of three types. The first set of activities has focused on emerging issues in international trade relations such as labor standards, the environment, investment codes, and trade in services. A second set of activities focuses on domestic and regional policy responses to globalization. Finally, the initiative is supporting a number of networks of economists in Africa and Latin America. The current emphasis of TEC programming is directed at maintaining or developing new networks working regionally or globally on emerging trade-related issues, such as competition policy and trade in health services. Also being supported are initiatives at the national level that produce the information needed to develop official positions and support civil society in international trade debates and negotiations.

### **3.3.2 Local and Regional Initiatives**

**Ontario** – The Food Industry Competitiveness Branch of the Ministry of Agriculture and Food aims to build a strong, competitive agri-food sector through the transfer of innovative technologies to industry stakeholders. It hopes to accomplish this objective through investing in research, which it believes is essential to encourage growth and employment in the sector. The ministry's competitive research programs and its enhanced partnership with the University of Guelph are examples of the research program undertaken.

The Ministry of Northern Development and Mines of the Ontario Government is also active in the field of competitiveness. A recent research paper highlighted the following:

- The National Research Council has committed \$C110 million to expand IT clusters.
- Industry Canada, Ottawa-Carleton (seven export-based clusters), Edmonton and Calgary, Government of Ontario (biotech), Quebec, Saskatoon (agri-biotech), Alberta (oil), Halifax (aquaculture) and Federal and provincial governments have made strategic investments.
- Public education has performed a vital role.
- Government agenda is set to:
  - provide seed funding for the identification of new clusters and the conduct of assessments;
  - act as a facilitator to bring cluster participants together;

- encourage local agencies to work with local businesses and educational institutions;
- monitor competitive advantage and innovative capacity; and
- encourage cross-border cluster specialization and integration.

**The Institute for Competitiveness and Prosperity ([www.competeprosper.ca](http://www.competeprosper.ca))**, established in 2001, is an independent not-for-profit organization whose objective is to deepen public understanding of macro and microeconomic factors behind Ontario's economic progress. It is funded by the Ministry of Enterprise, Opportunity and Innovation of the Government of Ontario. The Institute's primary purpose is to serve as the research arm of the Task Force on Competitiveness, Productivity and Economic Progress. Research is focused on comparing Ontario's performance with other provinces, U.S. states and other jurisdictions by creating an indicator system. Such systems have been created in many other jurisdictions and provide the foundation for a policy. Publications, presentations and working papers are available on the Institute's Web site.

**Quebec** – The Ministry of Finance, Economy and Research recently launched a training program to help Quebecois businesses become more competitive ([www.mic.gouv.qc.ca/competitivite/strategie-01.html](http://www.mic.gouv.qc.ca/competitivite/strategie-01.html)). The training program is targeted to managers and includes topics such as benchmarking, strategic marketing and quality standards. The Ministry also has advisory services available to businesses and publishes research papers on the Quebec economy (for example, see [http://www.stat.gouv.qc.ca/bul/economie/eco2\\_01\\_an.htm](http://www.stat.gouv.qc.ca/bul/economie/eco2_01_an.htm)).

### **3.3.3 Private Sector Initiatives**

The Canada Foundation for Innovation (CFI) ([www.innovation.ca](http://www.innovation.ca)) is an independent corporation established by the Government of Canada in 1997. The Foundation's goal is to strengthen the capability of Canadian universities, colleges, research hospitals, and other not-for-profit institutions to carry out world-class research and technology development. By investing in research infrastructure projects, the CFI supports research excellence, and helps strengthen research training at institutions across Canada. The CFI is responsible for a budget of \$3.15 billion. These funds are invested in partnership with the institutions and their funding partners from the public, private and voluntary sectors. Examples of research infrastructure projects are DNA analysis equipment for cancer research, electronic microscopes to track toxic bacteria, nanoengineering research facilities for new materials and systems, super computers to create new media and virtual reality environments, and deep-sea equipment to train marine scientists and solve environmental problems.

## **3.4 Europe**

### **3.4.1 Regional Initiatives**

The European Union (EU) established a Competitiveness Council in 2000 in order to undertake comprehensive anti-trust reform. Therefore, that Council deals mainly with issues of competition and not necessarily competitiveness as related in this present report. Nonetheless, the EU is indeed interested in making its member states more competitive. In fact, a recent World Economic Forum (WEF) report (WEF, 2002) featured competitiveness

in Europe, which undoubtedly was sparked by the ten-year strategy set out in 2000 to make the EU the world's most dynamic and competitive economy.

The so-called 'Lisbon Strategy' covers almost all of the EU's economic, social and environmental policies. It sets out a roadmap of actions designed to transform the performance of the EU and deliver sustainable development. The actions intend to improve competitiveness and allow businesses to play a full role in seizing new opportunities, creating jobs and wealth. Each year the EU adopts a theme for its strategy report. In 2003, that focus is on knowledge and innovation. National strategy reports from UNICE members can be found on-line at <http://www.unice.org/lisbon>. The report on Finland is included in the electronic library as part of this report.

### **3.4.2 National Initiatives**

**Denmark** -- Since 1993 the Danish Ministry of Trade and Industry has conducted studies to map out the Danish clusters that include almost all of the different sectors of the Danish economy. The analysis is important as a tool and applied when designing the industrial policy in Denmark. A further subset of clusters is used to analyze enterprise performance and competitiveness in this country, referred to as areas of competences. While clusters today consist of 12 broad industry domains, clusters of competence are smaller networks of companies, presenting with unique cutting-edge competences. A standing method for identifying clusters does not exist already, and no common approach has been drawn from international experiences. Recognized clusters also exist at the regional level in Denmark, such as the textile/clothing cluster in central Jutland and the furniture cluster in the region of Salling. Knowledge-based and innovative enterprises are a characteristic feature dominating the clusters of competence.

**Finland** – The theme of competitiveness is of particular interest to policymakers in Finland since that country has been the fastest climber in the World Economic Forum (WEF) and International Institute for Management Development (IMD) competitiveness rankings.<sup>22</sup> The National Development Project for Centres of Expertise and Science Parks, see [www.kyojaa@utu.fi](mailto:www.kyojaa@utu.fi)

**Ireland** – Key to the country's strategy to improve competitiveness is the work undertaken by the National Competitiveness Council (NCC) (<http://www.forfas.ie/ncc/index.htm>). Established in 1997 by an act of Government, the NCC membership represents a wide-range of sectors including senior levels of government, the private and public sector, the labor sector, and academic institutions of higher learning. The Council is housed at Forfás, the National Policy and Advisory Board for Enterprise, Trade, Science, Technology and Innovation in Ireland. The Irish Committee reports directly to the government to provide their work plans and specific recommendations on policy improvements. In a recent comparison of competitiveness councils, it was found that Ireland provides the most comprehensive reporting through an advisory benchmarking report and an annual policy

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<sup>22</sup>For a discussion of the various measures of competitiveness and their variances between the WEF and the IMD, and their application to Finland, see Rouvinen, 2001.

recommendation report (Grubb, undated). The recommendations offered in Ireland include financial, infrastructure, labor and social policy changes. Compared with Malaysia, the United States, Hong Kong and Singapore, the Irish Council provides the most recommendations for government action, which speaks directly to the Irish government's acceptance of the role of the Council in enhancing the national competitiveness and productivity of Ireland. Forfás provides analytical support to the NCC and also provides funding. The NCC uses a defined framework for competitiveness as the basis for its work program, which is included in the electronic library of this report.

Ireland, one of the poorer countries in the world at the start of the 20th century, is today one of the most competitive economies, not only in Europe, but also in the world. The Irish economy has been one of the fastest growing in the world in recent times, thanks to its ability to attract foreign investments. Therefore, the experience of Ireland offers many import lessons learned that can be extended to other economies. As a start, the Government adopted significant macroeconomic and fiscal policy reforms in the early 1990s. These changes were complemented by funding received from the European Union that facilitated structural reforms and helped to improve infrastructure. Government responded at both the policy level to promote investments in key sectors such as chemicals, pharmaceuticals, electronics, software and medical devices. It also worked directly with firms (e.g., Microsoft and Intel), which resulted in increased investment and deregulated key sectors, thereby opening the country to competition. Key areas of the country were targeted to promote employment and investment, and extensive research studies were undertaken to determine the types of professions that the country lacked, followed by educational and training programs to fill those shortages (Vedpuriswar, undated). From an institutional point of view, the NCC has learned to adapt its work program to changing economic conditions and the competitiveness needs of industry. It has also learned to strike a balance between the macro level and the micro or firm level and to develop stronger links between other key state agencies such as IDA Ireland ([www.ida.ie](http://www.ida.ie)) and Enterprise Ireland ([www.enterprise\\_ireland.com](http://www.enterprise_ireland.com)).<sup>23</sup>

**Spain** -- The Barcelona Institute of Competitiveness ([www.competitiveness.com](http://www.competitiveness.com)) is a member-based organization with headquarters near Barcelona, Spain. It was established as a non-profit organization with a grant from the Catalonia Government. One of the main tools that the institute uses is a database on cluster research. Available on the institute's website and accessible only to members, the database serves as a clearing house for members to post and search for research articles, studies and notices of competitiveness-related activities. The database was originally established two years ago with direct user input, but due to increased membership and the wealth of information submitted, a database manager was soon hired who now works on a part-time basis. The second main tool, although of lesser importance, is a newsletter that encourages membership and publicizes summaries of recent events and promotes upcoming ones. The newsletter, with a circulation of approximately 1,000, is sent electronically and is reportedly working well. Annual conferences are also held that provide an important forum to exchange information among members. Finally, the institute organizes conferences for researchers that typically last three days and focus on case studies. The first day, often referred to as 'Analysis of Learning', typically uses the round-table approach to

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<sup>23</sup> For an insightful view and analysis on the limits of applying the Porter cluster methodology to the case of Ireland, see O'Malley and Van Egeraat, 2000.

discuss five to seven cases. Competitiveness-related policies are analyzed by independent experts. The second day, ‘Case Study Day’, is devoted to in-depth analysis of case studies, where experts advocate competitiveness. The third and final day, ‘General Assembly’ presents a summary of the major findings and proposals to promote competitiveness. The largest benefit of this institute is the global network, and the fact that all its information is located on its Web site.

**Italy** – The Ministry of Industry is the main government agency in Italy responsible for competitiveness, and has focused on the promotion of SMEs due to the dominance of these types of companies in the Italian private sector.

### **3.5 Japan**

The Japan Small Business Research Institute (JSBRI) has conducted a survey of 106 out of about 700 industrial clusters in Japan to examine their present situation and conditions needed to ensure their sustainability in the future. The findings of that survey, as reported by Kaibori (undated), indicated that two-thirds of the clusters in the sample have experienced a decline in output, and a somewhat greater proportion has experienced a reduction in their workforce. For many of these, the problem has arisen from their long-term dependence on parent companies, and the inherent weakness of management.

Those that have managed to expand, according to the JSBRI, have shared a number of characteristics: (a) companies that focused on research and development and outsourced manufacturing and sales activities, (b) companies that relied on their own core technology and capabilities, (c) companies that separated from parent companies to develop their own products, (d) companies that developed networks, and (e) companies that created new markets through direct contact with end users. Success for these companies has therefore reflected a shift from depending on parent companies and traditional forms of cluster and network arrangements to focusing on research and development and developing new markets. Traditional vertically-based network arrangements, according to the JSBRI, need to be replaced by new horizontal ones that integrate technologies into marketing functions, since industry clusters in advanced countries like Japan need to direct their efforts on high value-added activities that are based on a high degree of product innovation.

A newly released compendium of studies by Japan’s Institute of Developing Economies (Kagami and Tsuji, 2003) has examined information technology (IT) clusters. In Japan, studies were conducted of Toyota Motor, an iron and steel city, the role of the Internet in urban-rural relationships, and digital-based communities in Osaka to analyze how industry clusters have coped with the country’s long recession and adjusted to globalization trends. The spread of Japanese multinationals to new regions like China, for example, have given rise to defensive reactions from local industry clusters. These studies have examined how regions with traditional industry clusters have been restructured to adapt to new technologies and external competition created by the growth of industrial clusters in developing countries.

### **3.6 Australia and New Zealand**

In Australia, industry clustering is relatively new to policymakers. According to the Australian Project Developments Pty Ltd (2000), there is a fairly high interest in clustering, though little knowledge of how to begin the process, and difficulty with sustaining the process. The various cluster initiatives currently underway are therefore tenuous in their sustainability, and there is therefore a risk that clustering interests will be discarded. A consortium of interests is currently being formed to determine how clustering can be institutionalized in the Australian/New Zealand economies.

Although cluster initiatives in New Zealand have been carried out by local governments in Auckland, Christchurch and Wellington, the relative weakness of public institutions at the local level have hampered their development. Nevertheless since 1997 the Wellington City Council has succeeded in generating a strong export-drive in its Wellington Business Clusters project. It was initiated at a time when it was clear that the Wellington economy, both regional and city-wide, was undergoing significant structural change. As a result, the Wellington region has developed a national and international image of excellence in e-business, mobile internet, software, earthquake engineering technology, film and television, creative content, natural hazards risk management, education and optics. Promotion of these businesses is carried out by Positively Wellington Business, which works closely with business in developing appropriate strategies to assist in identifying and capitalizing on opportunities for their industries.<sup>24</sup>

### **3.7 Conclusion**

The United States, Canada, Denmark, Finland, Norway are far more developed in their approach to competitiveness programs than other industrialized countries reviewed in this chapter, although Ireland has been quite successful. The focus of these successful countries has been on innovation and knowledge-based sectors with particular investment in human resources and cutting-edge technology. Emphasis has been placed on the areas of health and education, advanced manufacturing of machines, transport vehicles and equipment, IT and research and development. Industrialized countries, such as Canada, count on innovation to improve productivity growth, and in turn, close the gap between its major competitors such as the United States. For example, in that country, the federal government's strategy for innovation has focused on four inter-related elements: (i) knowledge infrastructure, (ii) commercialization of knowledge, (iii) human resources, and (iv) the business environment.

Despite the generalized tendency for authorities in the industrialized countries to institute clusters, the level and depth of those interventions have differed in terms of the degree and type of government involvement, and the objective of those clusters. In larger economies such as the United States, state and regional authorities have dominated cluster initiatives, while in small economies. Indeed countries with weaker local governments, as in the case of New Zealand, have had weaker clusters and networking experiences. Concurrently, cluster development programs in the industrialized countries have generally tended to exploit existing industries based on local or regional comparative advantages already in existence, in contrast to efforts by developing countries to attract foreign direct investment so as to promote technology transfer and develop new high value-added industries.

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<sup>24</sup> See [http://www.smartwellington.co.nz/swu/pe\\_0.htm](http://www.smartwellington.co.nz/swu/pe_0.htm)

## 4. Experiences of Multilateral Development Agencies

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### 4.1 World Bank

#### 4.1.1 Background

The World Bank has included the theme of competitiveness in its lending activities for several years. In fact, some officials related that competitiveness was a central part of international trade projects dating back to the 1980s, and that in the 1990s some sector studies were undertaken that nowadays could be classified as cluster studies. Nowadays, background studies or framework analyses for competitiveness programs often appear similar to the so-called private sector assessments (PSAs) that were undertaken throughout the developing world by the World Bank in the 1990s. One differentiating characteristic, however, is that today competitiveness framework studies usually focus on clusters with micro-oriented challenges and firm sample sizes are small; PSAs were usually the opposite.

Another opinion that emerged as a result of research undertaken as part of this study is that competitiveness projects are often difficult to classify and are usually very broad, touching on many different areas where reform is needed. Today, governments of developing countries usually request funding for competitiveness projects because it is a popular theme, and most countries indeed have donor-funded programs already underway or that have been completed in the recent past dealing with some angle of competitiveness. Most governments usually base requests to the World Bank on the Porter framework, and often ask that the first type of assistance be provided to form competitiveness councils, followed by cluster studies, and finally the development of a policy agenda.

When queried on any particular methodology used by the World Bank, officials revealed that in Central America, and in particular in Guatemala, El Salvador, Nicaragua and Honduras, four common areas have emerged in the design of competitiveness programs: (i) domestic competition policy, (ii) vocational training systems, (iii) quality and accreditation, and (iv) foreign direct investment. However, the World Bank has applied no real methodology to develop projects in these countries, although it has used a set of core assumptions as its starting grid and has emphasized process more than the product of the program.

Research on the theme of competitiveness is also an important World Bank activity. The recent publication titled *Globalization and Firm Competitiveness in the Middle East and North Africa Region* (Fawzy, 2002) is based on papers presented during a recent conference on firm competitiveness held in Cairo (an electronic copy is included as an annex to this report). The publication is devoted to examining the environment in which firms operate, the opportunities globalization offers along with the risks it entails, and the partnerships required to build firm competitiveness in the MENA region. The clear message is that firms, governments, business associations, think tanks, media, and universities all have a role to play in building firm competitiveness. Actions are needed to counteract recent trends that

show that MENA exporters have not made significant progress to better position themselves in the global market.

The World Bank is also concerned with the conditions that make countries conducive to efficient investment and operation of private businesses in competitive national and international markets. It therefore recently launched a set of investment climate assessments (ICAs) in client countries, which is an initiative to systematically analyze conditions for private investment and enterprise growth in countries throughout the world. ICAs provide the tools and analytical framework to identify reform priorities in a country's investment climate, by linking constraints to firm-level costs and productivity. Further background information is available online at <http://www.worldbank.org/privatesector/ic/>.

#### **4.1.2 Current Efforts**

***Burkina Faso*** -- The Competitiveness and Enterprise Development Project for Burkina Faso is a US\$30.7 million project currently being prepared. The objective of the project is to improve the country's competitiveness through privatization and utility reform, investment climate improvement and private sector institutional development, and to mitigate constraints to small and medium enterprise development. To achieve these objectives, the project will provide support to: (i) reduce government involvement through privatization and other types of deregulation activities to foster competition; (ii) carry out utility reform, particularly in the telecommunications and energy sectors; and (iii) promote the development of a strong and competitive private sector by improving the business environment and reducing systemic risk through the provision of effective business development services (BDS) and micro-finance services to micro and SMEs. The project has three components: (i) Privatization and Utility Reform (US\$15.5 million); (ii) Enterprise Development (US\$11.2 million); and (iii) Project Coordination (US\$4 million).

***Guatemala*** – A US\$20 million loan was approved in 2001 for the Guatemala National Competitiveness Program (PRONACOM), which was implemented towards the end of 2002 and whose concept was modeled after the El Salvador competitiveness project. The program aims to improve the country's competitiveness standing, accelerate economic growth and promote its peace accords by primarily helping small and micro businesses at two distinct levels. The first level seeks to improve the business environment through changes in four 'core' areas, as noted above (viz., domestic competition policy, training and information, quality improvement and investment). The second level is directed at broadening micro- and small business participation in national economic growth by (i) promoting increased investment in firm-level pre-competitive learning and innovation, (ii) piloting service and delivery innovation in information technology-based BDS, and (iii) expanding business development clusters and social responsibility. Success of the project will be measured on the incremental value added and employment generated by small and micro enterprises. Outputs will be measured at two main levels: (a) specific institutional development targets for the Competition Commission, "Invest in Guatemala", the National Training Council, and the National Statistics Superintendency ; and (b) firm-level.

***Peru*** -- A US\$24 million project on export competitiveness and trade facilitation forms part of the framework for the country's assistance strategy. Slated to begin this year, it intends to

complement the efforts of both the Inter-American Development Bank (IDB) and the CAF in reform initiatives in competitiveness for Peru. The project team will work closely with members of the recently created National Competitiveness Council, which is responsible for developing and overseeing the implementation of the National Competitiveness Plan. United States Congress approval of the Andean Trade Preference Act (ATPA), which allows a range of products into the United States at zero tariffs, is an important complement to this competitiveness objective. The overall objectives of the project are to assist the Government of Peru to: (i) put in place a more streamlined, integrated and effective institutional and policy framework to increase non-traditional exports; and (ii) develop and implement initiatives designed to foster the entrance of new export market participants, especially small and medium producers. The project has four main areas. The first is institutional strengthening, which would involve collaboration with Peru's National Competitiveness Council to elaborate the National Competitiveness Plan, undertake diagnostic studies and strategic benchmarking, work to strengthen export promotion within the Ministry of External Trade and Tourism, strengthen the Ministry of Foreign Affairs and PROMPEX (national export promotion agency) and PROMPYME (national agency that supports SMEs). The second area is quality practices, which would involve activities to promote effective quality practices in the private sector, improve quality management and regulation in the public sector, create a professional society, and upgrade the Technology Innovation Center including the elaboration of a pilot program for the garment industry, producers of wood products, packaging for selected agribusiness products, and maintenance and cleaning services. The third area is export finance, which would focus on activities such as providing advisory assistance to PROMPYME on export finance instruments for SMEs, international leasing schemes for capital goods, and review of bankruptcy procedures. The fourth is area focuses on the reduction of logistic costs, and would involve diagnostic studies on benchmarking of procedures for import/export at ports and analysis of determinants for "missing markets" in secondary transport services (containers and freight, cold chain, freight brokerage services). The last area comprises feasibility and environmental impact Studies for selected infrastructure projects.

**Rwanda** – A six-year US\$41 million Competitiveness and Enterprise Development Project in Rwanda was approved in 2001 with the overall objective of establishing an enabling environment for growth and development of the private sector that would help reduce poverty in Rwanda. The country faces particularly difficult development challenges given the reintegration of displaced persons, national reconciliation, sustaining growth and reducing poverty after the genocide and civil war of 1994. The project will focus on promoting a competitive climate by (i) streamlining the business environment; (ii) reducing costs and increasing the efficiency of telecommunications, water and electricity utilities, and the tea industry; and (iii) improving access to financial and support services to local entrepreneurs.

**Saudi Arabia** – A reimbursable technical assistance competitiveness project was recently initiated in Saudi Arabia with the Saudi Industrial Fund. The project aims to attract investment in non-traditional sectors (and avoid traditional sectors such as petrochemicals) by identifying four or five clusters, with the possibility of expanding into a greater number. Preliminary research so far has indicated that glass, granite, marble, dairy products, and

furniture hold potential for growth. This is a pilot project with modest funding of US\$150,000 that mainly covers time and travel of World Bank staff; counterparts in Saudi Arabia undertake most of the work.

**Thailand** – An economic report on competitiveness in Thailand was prepared in 2001 that formed the base for an upcoming project addressing the theme of competitiveness. The report builds on the Thai Government’s reform program that has been recently extended to explicitly incorporate measures to address constraints on competitiveness. Loss of competitiveness is argued to be a major cause of the economic crisis in Thailand, as reflect in the changes in total factor productivity. Three critical areas were identified that could constrain competitiveness in Thailand in the medium term: (i) knowledge base that includes addressing the skills gap, improving quality and coverage of education, mainstreaming information technology and enhancing science and technological capability; (ii) modernizing infrastructure regulatory framework to improve the efficiency and delivery of public services; and (iii) further improving the business environment through corporate governance, trade and investment regimes, and competition policy. Funding levels were estimated at US\$79.5 million, to be disbursed through a combination of grants and technical assistance.

#### **4.1.3 Lessons Learned**

An important general conclusion on lessons learned from past and on-going competitiveness projects sponsored by the World Bank is that this multilateral agency has played the important role of a catalyst in promoting competitiveness. Despite this role, certain departments within the World Bank refrain from using the term ‘competitiveness’ because it has been broadly and inconsistently applied during the years, thereby making its usage problematic. Nonetheless, important lessons are to be learned from World Bank efforts in promoting competitiveness. First, a general finding is that many member economies face the challenge of overcoming interest in collective action and sustaining momentum because the benefits of competitiveness programs are not necessarily immediately evident. One of the core assumptions is that members of the public and private sectors will work together towards establishing a competitiveness program. In Guatemala, this process recently broke down, which was mainly due to the change in a key government official. Because of this change, one of the main lessons learned was that interest in competitiveness projects tend to come and go. In Ecuador, a competitiveness program was recently developed that appeared on paper to have potential; in reality, project managers found difficulties in deepening competitiveness into policy changes because the program was too broad. Another lesson learned is that government must go beyond intangibles to demonstrate to firms that competitiveness initiatives are indeed working. Despite these set-backs, some improvements have been made, especially in the case of El Salvador. In that country, the Government established a one-stop shop, streamlined logistical systems and improved intellectual property legislation. Nonetheless, the average business person has not necessarily seen these changes. Yet another lesson that emerged is that successful projects should have an element of export orientation, and that three to four years could pass before results begin to surface. Likewise, projects should have a sharper focus than just competitiveness, such as international trade.

Past competitiveness projects in Morocco and Tunisia showed that trust must be built between the public and private sector and that caution must be exercised to prevent one side from perceiving that the other has too much influence in establishing and implementing competitiveness programs. It was also shown that countries should place a very high importance on policies and a framework in place for competitiveness to flourish, such as a sound competition policy. Regarding technical assistance, experience gained from projects in Morocco and Brazil showed that consultants with hands-on industry experience, preferably having contacts with government agencies known for international best practice, should be hired to undertake cluster-related work. Finally, a broad conclusion that can be drawn from competitiveness programs funded by the World Bank is that these types of projects do not trump national economic issues or trade-related issues, because the latter types of issues have a longer term impact than competitiveness-related issues.

## **4.2 UNIDO**

The United Nations Industrial Development Organization (UNIDO) ([www.unido.org](http://www.unido.org)) has executed numerous projects on competitiveness and seems to have recently adopted a two-pronged approach in project design—one that addresses competitiveness issues in fairly broad terms and the other that focuses on clusters. In 2001 UNIDO's Private Sector Development Branch launched the 'Development of Clusters and Networks of SMEs Program' (for details, see UNIDO, 2001). This program fosters inter-enterprise linkages as well as collaborative relations with local support institutions. It aims to promote collective efforts so that SMEs combine their strengths and jointly take advantage of market opportunities or solve common problems. The program covers horizontal networking (among SMEs), vertical networking (among SMEs and larger enterprises) and clustering. The clustering approach involves activities focused on the standard cluster methodology (viz., undertake diagnostic studies, identify priorities, and design a competitiveness plan), training courses for cluster 'brokers' or intermediaries, and cluster-to-cluster cooperation between countries by international study tours. The approach features a methodology on networking (both horizontal and vertical) through manuals that also include strategic planning and business plan development, training courses and an evaluation tool. Joint learning programs are also an important part of this SME program, and bring together professionals from different cluster projects to exchange ideas and discuss experiences. To date, three programs have taken place: the first on the experience of Italian industrial districts, the second on the Chilean experience of networking promotion, and the third on methodology update and exchange of experiences between the teams of four on-going projects. The greatest obstacle to cluster development is often lack of coordination, consistency and relevance rather than absence of support services available to enterprises. This finding implies that, in most instances, capability building does not necessarily mean the creation of new institutions or BDS but networking existing ones and bridging the gap between supply and demand.

The Private Financing of Infrastructure (PFI) Program is a broad competitiveness-type program that focuses on the potential of international business partnerships to enhance, largely through the involvement of indigenous technological-infrastructure institutions, the host country's technological capability and to make it more competitive in globalized markets. Ultimately, this enhanced ability to manage technology according to a far-sighted strategy increases the attractiveness of developing countries to foreign investors and holders

of advanced technology. PFI is an intricate mechanism based on a relatively straightforward idea: to allow governments to build up infrastructure by tapping private sector resources, outside their budget allocations and debt commitments. The PFI Program often uses build-operate and transfer (BOT) arrangements, whereby domestic and foreign private investors build an infrastructure facility, operate it on a commercial basis for a certain period and then turn it over to the government on pre-agreed terms. Using the PFI Program as its starting point, UNIDO has developed a comprehensive program on technological development of host countries that covers the elaboration of guidelines and standard procedures, advice on policy and strategy, assistance in capacity building and training, and technical assistance for specific PFI projects. One important lesson learned is that this type of mechanism should be used by developing countries not only as an investment scheme, but also as an important channel for technology transfer. Also, developing PFI projects is a complex task because of the numerous actors and aspects involved, the web of financial and contractual arrangements and the need to establish a regulatory framework for private sector participation in such undertakings.

UNIDO also undertakes research as part of its efforts to promote competitiveness. Its most recent Industrial Development Report (UNIDO, 2002) featured ‘competing through innovation and learning’ as its special research topic. Other research topics are country-specific, such as the industrial sector survey focusing in Tunisia that examined competitiveness in broad terms, growth potential and investment opportunities (UNIDO *et. al.*, 2001) and the study on competitiveness in the manufacturing sector of Indonesia (Dhanani, 2000). UNIDO also sponsors research on SMEs and competitiveness in a series of working papers, such as the one on manufacturing competitiveness in Thailand (Dhanani and Scholtès, 2002). UNIDO’s Web site has links to other background documents on competitiveness in general and on country-specific studies.

### **4.3 OECD**

The Organisation for Economic Cooperation and Development (OECD) has been active in cluster building initiatives and business networks. Its involvement dates to 1999 with the formation of the International Club of Local Clusters by the Local Economic and Employment Development (LEED) program of the OECD’s Territorial Development Service. The 1995 Paris conference on clusters and networks by LEED resulted in the publication of a study entitled “Networks of Enterprises and Local Development” (OECD, 1996). The LEED program is currently monitoring the relationship between local and global processes and how small firms can collaborate across countries such as Romania, Mexico and Italy.<sup>25</sup>

Other work within OECD’s cluster working group has applied a common value-chain cluster estimating procedure to several member countries that provide a commonly-available means of refining procedures and comparing cross-country results (Roelandt and den Hertog, 1999). Similarly, another study has applied newly released Austrian I/O table the value-chain clustering techniques used and reported by the authors in this monograph, in addition to analytic procedures being tested by OECD team (Bergman, Maier, and Lehner, 1998-99).

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<sup>25</sup> [http://www.clubdistretti.it/eng/Newsletter/English\\_number/e-n13\\_apr00.htm#5](http://www.clubdistretti.it/eng/Newsletter/English_number/e-n13_apr00.htm#5)

More recently, the OECD organized a series of cluster meetings in 2001-2003. Noteworthy among these were the World Congress on Local Clusters, held in Paris during 2001, and a series of seminars on clusters in transition economies that took place over the period 2001-2002 in Slovenia, Slovakia, the Czech Republic, Poland and Hungary, and organized by the LEED program in conjunction with the Central European Initiative (CEI) and the European Bank for Reconstruction and Development (EBRD).<sup>26</sup>

Another OECD initiative relates to the agglomerations of high-tech firms (see OECD, 1999). The focus has been on clusters of innovative firms in knowledge-based economies that rely on sophisticated infrastructure in which knowledge is developed, shared and exchanged. These clusters tend to be highly concentrated and to require effective links between entrepreneurs, investors and researchers, and they can take a variety of forms, depending on their main technological and commercial areas of specialization. In most cases they operate within OECD member countries and in localized geographical areas and interact within larger innovation systems at the regional, national and international level. With globalization, OECD-based dynamic clusters are becoming key factors in a country's capacity to attract the international investment that generates new technological expertise, to interest investors in innovation (venture capital, etc.) and to benefit from the international mobility of skilled personnel.<sup>27</sup>

#### **4.4 Inter-American Development Bank**

##### **(i) Background**

The IDB has always included elements of competitiveness in its operations without necessarily defining its activities as such. For example, the theme of competitiveness was included in investment projects, reform projects for certain sectors, and the so-called private sector assessments that were widely prepared by both the World Bank and the IDB in the 1990s. In 2000, the IDB Board of Directors adopted the 'four-pillar approach' to development that included the following areas: (i) modernization of the state, (ii) social sector reform, (iii) international integration, and (iv) competitiveness. A research paper was commissioned by the Board of Directors, which then evolved into a larger research project on competitiveness that was presented in the 2001 Economic and Social Progress Report (IDB, 2001). That report served as the basis for further strategy reports prepared by IDB staff, and raised visibility and awareness of the theme of competitiveness throughout the IDB. Additionally, its impact extended beyond Bank operations to help governments and the IDB tackle competitiveness in a coherent manner and revisit structural reforms in a way different than in the past. It was also used to stimulate discussions on competitiveness at regional seminars attended by private and public sector representatives from various countries.

Despite its widespread interest, the area of competitiveness sparked considerable debate within the IDB. Staff struggled with standardizing their approach to this topic, and discussed

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<sup>26</sup> <http://webnet1.oecd.org/EN/document/0,,EN-document-0-nodirectorate-no-20-19718-0,00.html>

<sup>27</sup> See, for example, Potter (2002).

at great lengths whether to adopt the cluster approach or policy reform approach. They prepared strategy reports on competitiveness (IDB, 2002a, IDB 2002b and IDB 2003, included in the electronic library annexed to this report) to help focus IDB lending operations, the preparation for which included extensive debates over the term of ‘competitiveness’ and its definition from a purely economic point of view. In the end, they decided to adopt an approach based on improving the environment for competitiveness at the macro level where they believed the IDB would have the most influence.

So in recent years, it has funded several programs throughout Latin America that include various elements of competitiveness but usually within broad terms. As such, competitiveness-related programs typically focus on policy, but recently have combined policy and institutional interventions with market studies at the cluster level. Irregardless of the focus, the over-reaching aim of the IDB is to develop a consensus-building process in its partner countries in order to define strategies for competitiveness. Once strategies are defined, it concentrates on the feasibility of activities for the business community, and further breaks down selected activities into projects or policies. The IDB then makes plans to implement those projects or policies using standard instruments that include technical assistance, policy loans or sector loans.

**Box 4.1**  
**IDB Lending Operations in Competitiveness, 1990-2000**

Project Type	Value		No. of Projects		Ave Value
	(US\$ mill.)	% of Tot.	No.	% of Tot.	(US\$ mill.)
Business Climate	6,493	41%	258	34%	25.2
Business Development	2,448	15%	280	37%	8.7
Firm	7,079	44%	219	29%	32.3
Total	16,020	100%	757	100%	21.2

Source: IDB (2002).

Statistics on IDB lending operations as they relate to competitiveness are only readily available for the period 1990-2000.<sup>28</sup> The total value of IDB operations in the field of competitiveness amounted to US\$16 billion during that period, which was allocated to 757 projects (for details, see Box 1). Projects are classified according to three areas: (i) business climate (lower transaction costs), (ii) business development (improve operational efficiency, and (iii) firm (access to capital). In terms of number of projects, the distribution across the three areas is fairly equal. However, in terms of value, firm-level operations received a greater share of funds compared with projects involving business climate and business development, and the average value of loans for firm-level projects was significantly greater than that for the other two loan types. It is interesting to note that the value of business development loans is significantly lower than that for loans in the other two categories.

<sup>28</sup>See, for example on the IDB’s Web site, ‘Competitiveness and Building Consensus: Strategic Options for IDB Operations’, prepared for discussion in the Workshop on Competitiveness and Consensus-Building in Latin America and the Caribbean, November 18, 2002.

## (ii) Current Efforts

The IDB is currently considering combining both macro and micro policy issues in its recent and new programs relating to competitiveness at the regional, national and local levels. At the regional level, the IDB is working on the Panama Puebla Plan to encourage broad-based discussions among members of the private and public sectors and the civil society on challenges faced by the regions. The goal is to create a common agenda and action plans for investment. At the national level, the IDB is working with national competitiveness councils in designing programs in the Dominican Republic, Ecuador, Honduras, Nicaragua, Panama, and Peru that will examine issues in the business climate and business development. At the local level, the IDB has initiated programs in San Pedro de Sula, Southern Mexico, and Argentina that aim to improve local productivity and incomes. All programs cut across various sectors of activities of Bank operations, which implies that significant efforts are needed for intra-institutional coordination and multi-disciplinary work. Details of some of these programs are provided as follows.

***Dominican Republic*** – The newly-proposed Program for the Development of Competitive Advantages (“Programa para el Desarrollo de Ventajas Competitivas”) with financing of US\$12 million aims to improve the competitiveness of Dominican enterprises in the international marketplace by establishing an institutional framework with joint private and public sector participation. The project will combine a macro approach with a cluster-based approach. At the policy level, work will be undertaken to improve the business environment through policy and regulatory reform within the framework of the National Competitiveness Council. At the cluster level, the project will focus on those sectors that already share a consensus to change, *viz.*, tourism, agro-industry, manufacturing, free zones and SMEs. The project is broken into four components, with funding levels as follows: (i) institutional strengthening and competitive strategy (US\$0.6 million); (ii) cluster formation and specialized technical assistance (US\$1 million); (iii) Competitiveness Fund (US\$10 million); (iv) evaluation and monitoring (US\$0.4 million).<sup>29</sup>

***Ecuador*** -- The program is currently being developed and is expected to focus on three areas: (i) minimization of legal risk and execution of property rights for commercial and financial transactions, (ii) improved access to financing via measures that reduce the risk and cost of financial intermediation, and (iii) labor market reforms to increase the incentives (remove disincentives) to participate in the formal labor market. Preliminary diagnostics have been conducted for the labor market and financial sector areas, and others will be conducted to analyze how to minimize legal insecurity and improve the definition and execution of property rights for commercial and financial transactions. This work is currently being coordinated with the National Productivity Council and the Central Bank; the funding level is unknown.

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<sup>29</sup>For background on this loan, see the IDB Website under ‘Proposed Projects’.

**El Salvador** – The Competitiveness Support Loan, valued at US\$100 million, is a policy-based program in the pipeline for 2003.<sup>30</sup> It is the first of its kind for IDB operations, since it aims to explicitly support competitiveness in the framework of a policy loan. In part, the theme of competitiveness is featured in this loan because the country's competitive capacity remains weak, as evidenced by its comparatively low ranking in the most commonly used international comparative indices, despite important macroeconomic reforms implemented in recent years. Given this framework, loan activities broadly aim to support the Government of El Salvador in maintaining economic stability and sustainable growth by focusing on five areas: (i) modernization and reform of sector regulations for infrastructure services in the area of seaport operations, air transport and energy; (ii) reduction in corruption, increase in legal security and efficiency, and public safety; (iii) improvement in the framework for innovation and technological capacity, such as vocational training and cooperation within the private sector and between the private and public sectors; (iv) enhancement of labor market flexibility and compliance with legislation established to safeguard employees' rights; and (v) modernization of commercial legislation to promote competitiveness.

**Honduras** – The Program to Develop Entrepreneurial Competitiveness ('Programa para el Fomento de la Competitividad Empresarial') is a US\$12.5 million project proposed in end-2002. The project has three distinct, yet inter-related components. The first seeks to consolidate and coordinate efforts of the private and public sectors and civil society through the creation of a National Competitiveness Council (NCC) with a technical secretariat. The NCC will form a technical unit to execute the project, while strengthening the decision-making process of members of the Council, working group, and business leaders of selected clusters. It will also support the work of the legislative committee on competitiveness and promote consensus among the public and private sectors and civil society. The second component aims to implement a National Competitiveness Strategy and the design and implementation of clusters for four specific sectors: 'maquila textil', tourism, forestry, and agroindustry. The third component will offer direct technical assistance to SMEs in order to upgrade their management and productive capacity. This loan serves as the conceptual model for the Competitiveness Development Program in Panama, described as follows.

**Panama** – The objective of the 1992 Program to Foster Competitiveness (US\$10 million) is to make Panamanian businesses more competitive by launching a consensus-building process to develop strategies and projects to foster business competitiveness, with a focus on four sectors: agroindustry, logistics, technology services, and tourism. The establishment of the National Competitiveness Council (NCC), which acts as the national policy-formulating body, is at the heart of this program. Funds available under the first component of the project (US\$510,000) were earmarked to promote an institutional process and undertake diagnostic assessments of competitiveness conditions in Panama. Funds under the second component (US\$322,000) were allocated to develop a competitiveness strategy at the national level, as well as for the chosen clusters. Funds under the third component (US\$6.86 million) established the National Competitiveness Fund to provide funding in the form of matching grants for projects to promote the selected clusters. Finally, funds under the fourth component (US\$294,000) were intended to set up monitoring and evaluation mechanisms.

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<sup>30</sup>Ibid.

The NCC examined the experiences of other countries and collaborated with INCAE, which reportedly led to interesting diagnostics, but not to many interesting projects. In the end, because no funding mechanism was set up by the Council outside the National Competitiveness Fund, economic activity was limited. Nonetheless, the IDB recently provided additional funding to the NCC so that it can implement policy-related activities. The fund is managed by a private firm that has an incentive contract to deliver policy reforms. Funds are only available to projects with specific outcomes (*viz.*, funds are not available for events such as conferences). The Council is currently set up according to ten clusters, each of which will work at two separate levels. The first is at the macroeconomic level that promotes policy reform; the second is at the microeconomic level that fosters sustainability by promoting productive activities.

**Peru --** The program in Peru is currently being developed and will likely take the form of a policy-based loan similar to a multi-sector loan, yet with a non-traditional approach. These types of loans typically require extensive interaction with the private sector. In the case of Peru, working groups (known as ‘*mesas de trabajo*’) were established comprising representatives from both the public and private sectors. Facilitated by outside consultants, the participants collaborated to develop a policy matrix focusing on eight to ten themes that overlap with current issues in the world economy. This approach is based on the experience of Bolivia, described below. In early February a conference was held to discuss the results of the working groups, which are now being incorporated into the preparations of the policy-based loan for Peru. Loans that are in the IDB’s portfolio for 2003 that are indirectly related to productivity and competitiveness include projects on (i) strengthening the tax collection system (US\$3.5 million), (ii) sector science and technology program (US\$35 million), and (iii) development of financial rural markets (US\$20 million).

**Latin America Region --** At the regional level the IDB has adopted a three-pronged approach that combines overall research, policy interventions and technical assistance fund. In the area of research, the IDB featured competitiveness as the theme of its annual economic and social progress report (IDB, 2001). This publication served to as a communication tool with governments in developing country strategies and opening dialogue with new governments. It also serves as a major input in developing the overall Bank strategy for Latin America. The technical assistance fund (\$750,000) attempts to facilitate diagnostics and develop dialogue at the regional level. This program is used in a targeted way to fund activities for individual countries within the regional context valued at less than \$100,000 each. Two such studies are being prepared for Colombia and El Salvador. Off-shoots of this program have begun to take place at the individual country level. For example, the government of the Dominican Republic is considering establishing a competitiveness fund within the context of its national economic development program. Most countries have national programs on competitiveness, and often they exist at the local level.

### **(iii) Lessons Learned**

IDB officers shared important lessons learned insofar as the design of competitiveness programs, but stressed that because the programs are so new, key results to date do not yet exist. Overall, they expressed concern over working only at the cluster level and feared that

the use of cluster-based approach alone could easily be developed into a country's industrial policy. Officers stressed the importance of going beyond policy support to promote the production of high value goods and manufactured goods, and thought that clusters could be an effective tool. An officer also commented that the approach that USAID has traditionally taken in working closely with the private sector and promoting private/public sector dialogue could give USAID programs an advantage over other types of donor support. Because of this important lesson, the IDB is now focusing on engaging the private sector in a consultative process that hopes to foster more ownership on behalf of the private sector, rather than imposing policies at the Government level. Also, IDB officers commented on the variety of types of programs it has available to by-pass the public sector that allow direct involvement with the private sector, such as grant instruments that USAID and other hands-on types of mechanisms that allow them to work closely with entrepreneurs in reviving cluster work.

At this point in its competitiveness programs, the IDB appears to be more concerned with process rather than with outcomes, and that improved competitiveness is a natural outcome of the development process. In part, this concern stems from the difficulty in predicting the impact of any given project and the indirect effect of that project on broad factors that affect enterprise performance such as export expansion, improved product quality, enhanced business services and upgraded labor. Officers made several references to success stories of other countries in competitiveness, and named Ireland and Singapore as two important examples from which lessons can be drawn. These countries have established competitiveness councils that work with other government institution to lay out a strategy, rather than policies. Finally, the Bank structure, and the way it operates, also presents an important challenge. For example, it is often difficult to coordinate the three distinct levels operation, which include (i) policy functions, (ii) business services, training and technology, and (iii) financial (debt-equity to finance) operations.

In a recent strategy document (IDB, 2003), the IDB lay out additional important lessons learned that can be applied to future lending operations. Highlights of these lessons include, for example, the need for institutions to adopt integrated approaches to improve effectiveness and focus efforts. Macroeconomic stability was also determined to be an underlying factor in the development of productivity and competitiveness, which in turn requires a system of economic and institutional signals that give individuals and companies a guarantee that they can appropriate the income derived from their efforts of productive investment, innovation and work. Improvement in the supervision and legal framework of the financial system, while in itself is insufficient, is an underlying fundamental necessity for improved competitiveness. Likewise, strengthening reforms in the infrastructure provision sectors is also an important lesson learned.

#### **4.5 Conclusion**

Among the agencies in the international donor community whose programs were reviewed as part of this study, the World Bank appears to have been the first to include the theme of competitiveness in its operations dating back to the 1980s, but without necessarily naming it as such. The IDB addressed this issue as early as the early 1990s, while UNIDO included competitiveness in its projects just a few years ago. In general, the IDB emphasizes process more than policy, and the World Bank tends to emphasize policy more than process. For

example, the IDB tends to work with members of National Competitiveness Councils and the World Bank on the top five policy issues. In contrast, UNIDO seems to have adopted the popular cluster approach with a focus on SME development. Both the World Bank and IDB have struggled with an acceptable definition of competitiveness, yet have agreed that competitiveness is part of the development process and therefore takes time. All agencies undertake research to better understand competitiveness and learn from past projects.

The World Bank has loans focusing on the issue of competitiveness in Africa, Latin America, Asia and the Middle East. Even though it has applied no real methodology to develop projects in those regions, it has used a core set of assumptions as its starting point and emphasizes process rather than the product of the program. In the design of recent competitiveness projects in Latin America, four common areas have emerged: (i) domestic competition policy, (ii) vocational training systems, (iii) quality and accreditation, and (iv) FDI. UNIDO's SME program aims to promote inter-enterprise linkages as well as collaborative relations with local support institutions. This approach features a methodology on networking (horizontal and vertical) and joint learning programs. The IDB is currently considering combining both macro and micro policy issues in its new programs on competitiveness. Staff struggled with standardizing their approach and decided to adopt one on improving the environment for competitiveness. As such, typical IDB programs combine policy and institutional interventions with market studies at the cluster level. Box 4.1 highlights key lessons learned from international donor projects (non-USAID funded).

**Box 4.2**

**Key Lessons Learned from Non-USAID Competitiveness Initiatives undertaken by Multilateral and Regional Development Agencies**

1. Multilateral and regional development agencies often play a catalytic role in promoting competitiveness.
2. Countries that benefit from agency programs face the challenge of sustaining momentum because the benefits of competitiveness programs are not necessarily immediately evident.
3. Successful competitiveness projects tend to have an export orientation.
4. Caution must be exercised to prevent private or public sector participants from perceiving that one party has too much influence on the other.
5. Successful programs go beyond policy support to promote the production of high value goods and manufactured goods, and clusters could be an effective element in this strategy.
6. A variety of loan and technical assistance instruments, such as grants, are successful in working directly with the private sector, especially in cluster-related activities.
7. The so-called 'second generation' of economic reforms should not be overlooked in the development of competitiveness programs.

## 5. Implications for USAID Practices

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This report has presented an inventory of initiatives by non-USAID agencies covering initiatives by government and private sector interests in developing countries (Chapter 2) and industrialized economies (Chapter 3), and initiatives by multilateral and regional development agencies (Chapter 4). In each case, attempts were made to discuss the background of initiatives, their approach, efforts currently underway and lessons learned (see Annex A for a summary). What immediately becomes apparent from the summary characteristics of these clusters and networks is that their proliferation, especially in developing countries, has been a very recent phenomenon. While most programs to improve competitiveness in the industrialized countries date from the early to mid-1990s, those in developing countries, by and large, date from the last 5 years, as do those in multilateral and regional development institutions.

Moreover, despite their very recent emergence as a focal point of economic development policy, the worldwide growth of industry and regional clusters and business networks has been impressive. The inventory of clusters by the Institute for Strategy and Competitiveness at Harvard Business School currently details 169 clusters in developing countries and 664 in industrialized countries (see Tables 2.1 and 3.1 above). Yet little, if any, attempt has been made so far to gather systematic information about the policies and practices of these clusters, especially for those that have been developed independently of USAID support. Lack of conformity about the design, objectives, methodology, and even definition of clusters have all contributed to the difficulty of systematizing information about them, especially quantitative information about program costs and outcomes. The present synthesis of our findings is therefore less formalized than that for USAID supported programs, yet nonetheless aims to identify the major patterns and characteristics of cluster policies and practices found in the present survey. These patterns and characteristics can be distinguished into the following: (a) funding sources and institutional mechanisms, (b) cluster types, (c) program outcome objectives, (d) level of government and private sector involvement, (e) local versus national oversight, and (f) economic policy support mechanisms.

### **5.1 Funding Sources and Institutional Mechanisms**

Most competitiveness programs of developing countries have initially been funded by international donor agencies, rather than through direct government sources. Although they continue to rely on these funding sources, some such as the Competitiveness Movement in Brazil increasingly rely on government funding. These start-up funds are often directed at the establishment of institutional structures like National Competitiveness Councils that serve as the implementation vehicle for the competitiveness programs.

In contrast, industrialized countries tend to rely on competitiveness councils to a lesser extent than developing countries, although these functions are nevertheless carried out by government agencies. For example, Ireland, a country that is often viewed as a role model for cluster development, has a competitiveness council housed within the national advisory

board. Ireland's success, however, cannot be solely attributed to its institution mechanism, since it has also implemented macroeconomic and structural adjustment policies and private sector development programs to support its competitiveness enhancing initiatives.

## **5.2 Cluster Types**

For developing countries, an appropriate classification of the wide-ranging experiences reviewed in this survey is the four types of clusters identified by Altenburg and Meyer-Stamer (1999): (1) clusters of transnational corporations; (2) clusters of resource-based industries; (3) clusters of micro- and small-scale enterprises; and (4) clusters of advanced and differentiated mass producers. The more important and economically viable type of these clusters has been that associated with transnational corporations.

The first two types of clusters in this classification tend to promote best manufacturing practices and contribute to upgrading of domestic firms by involving them in the supply-chain of production activities, though clusters of resource-based industries tend to be heterogeneous in their composition and linkages. Clusters of transnationals have been characterized by large-scale branches from multinationals located in geographical areas where they are able to carry out their production and marketing functions both in an effective production manner and by penetration of important markets. Cross-national production networks have therefore been motivated by efforts to exploit international factor cost differentials, minimize transactions costs, access clusters of specialized capabilities and contested growth markets, and reduce the response time to technological changes and market requirements. Under these circumstances, transnational clusters have been closely related to cost competition and speed-to-market considerations.

The later two types of clusters (those of micro- and small-scale enterprises and those of advanced and differentiated mass producers) have tended to succeed when combined with clusters of transnational corporations; without them, they have only been able to compete locally under import-substitution policies because of their high cost structures. Clusters of micro- and small-scale enterprises, though the largest in terms of their numbers, have generally operated in the informal sectors of developing countries. An example covered in the present survey is Egypt, where the weakness of SMEs and micro-enterprise activity in the informal sector of the economy has been a major impediment to the development of private sector development efforts. Similarly, clusters of advanced and differentiated mass producers have relied on import-substitution policies to survive, and they have therefore had little innovation and R&D associated with their activities.

## **5.3 Program Outcome Objectives**

Cluster and business network programs tend to have a variety of outcomes as their objectives, such as improvement of market shares and employment creation, all of which make quantification of outcomes difficult, even where cluster development programs have been well-established.

Industrial economies are more advanced than developing economies in terms of the technological development aims of their cluster development programs. For example, in

Canada, competitiveness initiatives tend to focus on innovation, such as cutting-edge technologies and knowledge management. A similar pattern exists in the United States, where state and regional authorities have played a major role in promoting technology-based industries using cluster initiatives.

#### **5.4 Level of Government and Private Sector Involvement**

Most developing and industrialized countries have competitiveness programs that represent collaborative competitiveness programs between public and private sector interests. The composition and degree of mutual involvement is closely associated with country size: the larger the country in terms of GDP size, the greater the collaboration between the two sectors. In Brazil, for example, the High Council of the *Movimento Brasil Competitivo* is jointly headed by representatives of government agencies and private companies.

Joint ownership of the program between public and private sector institutions has tended to provide a balance between cluster development policies and business networking practices, as well as being less vulnerable to political controversy, as in Bermuda's competitiveness program. Similarly, the role of government in streamlining export procedures and facilitate information flows business in Colombia has been an important component to private sector efforts to provide services to their respective groups.

#### **5.5 Local versus National Oversight**

Country size is also an important determinant of the distribution of national versus regional ownership over competitiveness programs. In large developing countries such as Mexico, competitive initiatives are almost wholly limited to the regional and state levels. Similarly, in larger economies such as the United States, state and local authorities have dominated cluster initiatives, while in small economies such as New Zealand, the weakness of local governments has undermined clusters and networking experiences.

There are two important differences in the manner in which the larger developing and industrialized countries have promoted cluster development at the regional level. First, developing countries such as Mexico and, to a somewhat lesser extent, Thailand have tended to promote state and local clusters without national-level coordination, whereas countries such as the United States, as well as the European Union, have made a number of efforts to coordinate cluster development programs among its member states. Secondly, cluster development programs in the larger industrialized countries have tended to exploit existing industries based on existing local or regional comparative advantages. In contrast, the larger developing countries have targeted foreign direct investment as a means of promoting technology transfer and the development of new high value-added industries.

#### **5.6 Economic Policy Support Mechanisms**

Supporting economic policies from national and local governments are an integral part of all competitiveness programs. Developing countries that have until recently adopted inward-looking import substitution regimes have had to implement so-called first-generation reforms of macroeconomic and sector policies as their cluster policy components. In contrast,

countries that have adopted outward-oriented and private sector led economic growth strategies have enabled the operation of market signals, and instead implemented policies to remove administrative and bureaucratic obstacles to private sector activities. In these countries, the cluster policy components have been second-generation reforms aimed at eliminating obstacles in their regulatory and institutional environments inhibiting private sector activities. Development of clustering activities by transnational corporations has generally been concentrated in developing countries that have adopted outward-oriented, private sector led growth strategies and have addressed second-generation reforms.

**Annex A.1**

**Non-USAID Competitiveness Initiatives: Developing Country Experiences**

Country	Program Name	Dates	Approach	Value	Lessons Learned
<b>Latin America:</b>					
Bolivia	Bolivian Competitiveness Program	2002- present	Establishing a type of competitiveness committee with a two-pronged approach: macroeconomic reforms and regulatory issues.	Unknown; part of Andean Competitiveness Program.	Long-term vision towards competitiveness needs to be adopted by both public and private sectors; council should not be used as an instrument to lobby government.
Brazil	Competitiveness Movement of Brazil	2001- present	Council comprised of public and private sector representatives whose current portfolio reflects a mix of institutional and sector activities.	Unknown; non-profit organization.	Organizational structure important given possible changes in government.
Colombia	Colombian Competitiveness Program	2000- present	Demand-side approach to offering services to companies to improve their competitiveness.	Unknown; part of Andean Competitiveness Program.	<ul style="list-style-type: none"> <li>• Although numerous institutions exist in Colombia that promote competitiveness, only a few are effective.</li> <li>• Program raised awareness of competitiveness but did not necessarily generate concrete results.</li> <li>• International best practice institutions have substantial private sector role.</li> </ul>
Mexico	Major initiatives: Guadalajara computer and telecommunications industry; Puebla, Ramos Arizpe and Aguascalientes auto industries; Tijuana large-scale assembly of television sets; and (d) Cuernavaca Textile City project.	Mid-1990s to present	Focus on regional and state competitiveness initiatives rather than national-level initiatives	Unknown; financed by Government of Mexico, local and national chambers, UNIDO and UNDP.	While regional and state competitiveness initiatives are likely to be more effective than those at the national level for medium and large-size countries, lack of comparability among competitiveness initiatives at the state and regional level undermines the overall effectiveness of the individual initiatives.
Bermuda		1992 to present	Instituted wide-ranging efforts to promote competition in two main sectors: tourism and foreign trade.	Unknown; financed by Government of Bermuda.	Political opposition to structural changes needed to implement programs undermined success, though lessons from recent reforms have yet to be identified.
<b>Middle East:</b>					
Egypt	SME Competitiveness Project	2003	Objective is to shift focus of SME sector away from limited local market by improving competitiveness.	Unknown; financed by Gov't of Egypt and CIDA	New project.
Jordan	Competitiveness Unit	1992	Original regional approach shifted to national using cluster methodology; mainly undertakes research.	Unknown; financed by Gov't of Jordan.	Regional approach failed due to political situation; approach difficult to implement so mainly act as research unit.
<b>Asia:</b>					
Thailand	Major initiatives: Bangkok	2001- present	Comprehensive approach aimed	Unknown; financed	Regional approach has proven to be more

	multimedia sub-clusters; Chiang Mai-Lampang clustering in ceramics, eco-tourism and handicraft; western provinces clustering in high value-added agriculture; central region clustering in silk processing and ceramics; south-central gem clusters; south-western tourism clusters.		at developing human resources, creating a knowledge-based environment, improving strategic infrastructure, improving the business climate, attracting local and foreign investment, strengthening role in regional development, focusing efforts on agreed programs, identifying niches of opportunity for Thai products in global markets.	by Government of Thailand.	successful than national-level approaches in other countries of similar size; centralization and coordination of activities by government agency (NESDB) has helped to ensure internal consistency to the individual programs.
Singapore	Committee on Singapore Competitiveness	1998- present	Formulated strategies and policies to make Singapore competitive over a 10-year horizon by transforming the country into a knowledge-based economy capable of producing strong technological and entrepreneurial initiatives.	Unknown; financed by Government of Singapore.	Despite HRD success, lack of risk-taking and innovative behavior by entrepreneurs has undermined competitiveness initiatives. Policy to import mid-level management and professionals may create future problems and undermine existing efforts to promote domestic entrepreneurs.
Andean Region (Bolivia, Colombia, Ecuador, Peru, Venezuela)	Andean Competitiveness Program	Phase I: Dec 1999-Mar 2002; Phase II: Mar 2002-Dec 2004	Phase I: CAF office in each country interacted with local research institution and CID team in three distinct program components: (i) Microeconomic (firm-level) interventions including cluster approach and institutional reform; (ii) economic policies, (iii) environment and sustainable development.	Assistance partially provided by Center for International Development (CID), Harvard University	Combination of strategies could prove to be more effective than a single one.
Central America	CLACDS	1996-	Research institution with broad range of topics including both cluster and policy approaches.	Unknown.	See specific research studies.

**Annex A.2**

**Non-USAID Competitiveness Initiatives: Industrial Country Experiences**

Country	Program Name	Dates	Approach	Value	Lessons Learned
<b>United States</b>	Council on Competitiveness	Early 1990s	Address key constraints to US competitiveness and productivity growth by addressing competitiveness of US industries and business and trade policy; creating an institutional forum from which to identify economic problems inhibiting the competitiveness of US agriculture, business, and industry; and developing long-term strategies to address constraints.	Unknown	Although some studies have identified key industries where the United States can compete globally, the basis for competitiveness has been identified at the regional level. National initiative under Council on Competitiveness has operated independently of state-level initiatives, thereby weakening linkages. However, close coordination between governors has recently provided a national forum for improved collaboration among various competitiveness programs.
<b>Canada</b>	Industry Canada  Ontario Gov't  Quebec Gov't		Works both at policy and enterprise level, without formal competitiveness council; focus on promoting knowledge-based economy. Transfer of technology to build competitive agri-food sector through joint research programs with universities. Enterprise training program,	Unknown.	
<b>European Union:</b>					
EU	Lisbon Strategy				
Denmark					Underlying belief is that strategy is to promote competitiveness in the domestic market where there is competition in input supply and product purchasing.
Ireland	National Competitiveness Council	1997	Housed in Forfás, the national policy and advisory board for enterprise, trade, science, technology, and innovation.		Has learned to adapt its work program to changing economic conditions and the competitiveness needs of industry. It has also learned to strike a balance between the macro level and the micro or firm level and to develop stronger links between other key state agencies such as IDA Ireland ( <a href="http://www.ida.ie">www.ida.ie</a> ) and Enterprise Ireland ( <a href="http://www.enterprise_ireland.com">www.enterprise_ireland.com</a> ).
Spain	Barcelona Institute of Competitiveness		Primarily a research organization that uses a database on cluster research.	Membership required.	The largest benefit of this institute is the global network, and the fact that all its information is located on its Web site.
Japan	None	Early 1990s	Wide-ranging cluster types throughout the economy, without central program.	Unknown	Dependence on parent companies and the inherent weakness of management has undermined cluster development. Successful clusters have shift from dependence on parent companies and traditional forms of cluster and network arrangements to focus on research and development and developing new markets.
Australia	None	2000	National or local level programs have not been established, though interest exists	Undetermined	None yet due to lack of experience.

*Evaluation of Competitiveness Initiatives: Non-USAID Experiences*

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			among businessmen and policymakers.		
New Zealand	Local initiatives in Auckland, Christchurch and Wellington	2000	Developed national and international image of excellence in e-business, mobile internet, software, earthquake engineering technology, film and television, creative content, natural hazards risk management, education and optics.	Unknown	Relative weakness of public institutions at the local level have hampered cluster development

**Table A.3**  
**Non-USAID Competitiveness Initiatives: Regional and Multilateral Development Agencies**

Country	Program Name	Dates	Approach	Value	Lessons Learned
<b>World Bank</b>	Burkina Faso	Under preparation.	Improve competitiveness through deregulation of key infrastructure services and privatization.	US\$31 million.	Not yet underway.
	Guatemala	2001	Two level approach: (i) improve business environment, (ii) broaden micro and small business participation in national economic growth	US\$20 million	Modeled after El Salvador Competitiveness Project
	Peru	2003	Focus on export competitiveness and trade facilitation.	US\$24 million	Not yet underway, will complement IDB and CAF programs.
	Rwanda	2001-2007	Establish enabling environment for private sector development.	US\$41 million	Project challenged by reintegration of displaced persons, national reconciliation and poverty reduction following civil war.
	Saudi Arabia	2003	Reimbursable TA fund to attract investment in non-traditional sectors.	US\$150,000	Pilot project, Saudi counterparts undertake most of the work.
	Thailand	2001	Addresses knowledge base, modernization of infrastructure regulatory framework and improving business environment.	US\$80 million	Builds on Thai Government's reform program.
	Research		See References.		
UNIDO	Development of Clusters and Networks of SME Program	2001-present	The program covers both horizontal and vertical networking and clustering. The clustering approach involves activities focused on the standard cluster methodology, training courses for cluster 'brokers' or intermediaries, and cluster-to-cluster cooperation between countries by international study tours.	Unknown.	Greatest obstacle to cluster development is often lack of coordination, consistency and relevance rather than absence of support services available to enterprises. This finding implies that, in most instances, capability building does not necessarily mean the creation of new institutions or BDS but networking existing ones and bridging the gap between supply and demand
	Private Financing of Infrastructure (PFI) Program	--	Broad competitiveness-type program that focuses on the potential of international business partnerships using BOT arrangements to enhance, largely through the involvement of indigenous technological-infrastructure institutions, the host country's technological capability and to make it more competitive in globalized markets	Unknown.	This type of mechanism should be used by developing countries not only as an investment scheme, but also as an important channel for technology transfer. Also, developing PFI projects is a complex task because of the numerous actors and aspects involved, the web of financial and contractual arrangements and the need to establish a regulatory framework for private sector participation in such undertakings
	Research		See References.		
OECD	International Club of Local Clusters by the Local Economic and Employment Development (LEED) program;	1999	(1) Monitors relationship between local and global processes and how small firms can collaborate across countries such as Romania, Mexico and Italy; (2) applied common value-chain cluster estimating procedure to member countries to provide a commonly-available means of	Unknown	Promotion of dynamic clusters as key factors in a country's capacity to attract the international investment that generates new technological expertise, to interest investors in innovation, venture capital, and to promote benefits from the international mobility of skilled personnel.

	World Congress on Local Clusters		refining procedures and comparing cross-country results; (2) focus on clusters of innovative firms in knowledge-based economies that rely on sophisticated infrastructure in which knowledge is developed, shared and exchanged		
IDB	Dominican Republic	2003	The project will combine a macro approach with a cluster-based approach.	US\$12 million	Not yet underway.
	Ecuador	Being developed.	Coordinated with the National Productivity Council and the Central Bank, will focus on minimization of legal risk and execution of property rights for commercial and financial transactions, (ii) improved access to financing, and (iii) labor market reforms	Unknown.	Not yet underway.
	El Salvador	In pipeline for 2003.	First of its kind for IDB operations, since it aims to explicitly support competitiveness in the framework of a policy loan	US\$100 million	Not yet underway.
	Honduras	To be executed in 2003.	Three parts: (i) create a National Competitiveness Council, (ii) design and implement a national competitiveness strategy, (iii) direct assistance to SMEs.	US\$12.5 million	Not yet underway.
	Panama	1992	Established a NCC, national competitiveness strategy and promoted clusters; also established a matching grant competitiveness fund.	US\$10 million	The NCC examined the experiences of other countries and collaborated with INCAE, which reportedly led to interesting diagnostics, but not to many interesting projects. In the end, because no funding mechanism was set up by the Council outside the National Competitiveness Fund, economic activity was limited
	Peru	Being developed.	Will likely take the form of a policy-based loan similar to a multi-sector loan, yet with a non-traditional approach	Unknown.	Extensive private/public sector discussion facilitated by outside consultants helped to shape project design.
	Research.	Ongoing			

## Annex B: Some Useful Web Sites

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### **A. Support Organizations and Research**

**Appalachian Regional Commission**

<http://www.arc.gov/programs/reginit/entevry/entrepix.htm>

**Biomed clusters worldwide**

<http://www.zurichmednet.org/clustersworld.html>

**Industry and Regional Clusters: Concepts and Comparative Applications**

[www.rri.wvu.edu/WebBook/Bergman-Feser](http://www.rri.wvu.edu/WebBook/Bergman-Feser)

**Cluster Navigators (New Zealand)**

[www.clusternavigators.com](http://www.clusternavigators.com)

**Council on Competitiveness**

<http://www.compete.org>

**Competitiveness Institute**

<http://www.competitiveness.org/home.htm>

**Collaborative Economics**

<http://www.coecon.com>

**Industrial District Club of Italy**

<http://www.clubdistretti.it>

**Initiative for a Competitive Inner City**

<http://www.icic.org/home.html>

**National Commission on Entrepreneurship**

<http://www.ncoe.org>

**National Network of Sector Practitioners**

<http://www.nedlc.org/nnsi>

**New South Wales, Australia Learning Network Protocol**

<http://www.cpsc.nsw.gov.au/roundtable/docs/ln-protocol.pdf>

**Regional Technology Strategies**

<http://www.rtsinc.org>

**Organization for Economic Cooperation and Development LEED program**

<http://www.oecd.org/tds/LLEDonline/1.htm>

**University of North Carolina cluster course**

<http://www.unc.edu/depts/dcrpweb/courses/261/leveen>

**The World Bank**

<http://www.worldbank.org/urban/led/cluster.html>

**B. State/National Cluster Programs**

**California**

<http://typhoon.sdsu.edu/sdeimp/voli.pdf>

**Connecticut**

<http://www.state.ct.us/ecd/Clusters/default.htm>

**Florida**

[http://www.eflorida.com/all\\_key.html](http://www.eflorida.com/all_key.html)

**Massachusetts**

<http://www.mtpc.org/theindex/Dec98forum/sld029.htm>

**United Kingdom**

<http://www.dti.gov.uk/clusters/map>

**Upper Austria**

<http://www.tmg.at/defaulte.html>

**Selected Cluster Web Sites**

**Wisconsin**

<http://www.wisconsin.edu/summit/archive/2000/papers/all.htm>

**C. Local/Regional Clusters**

**Chattanooga**

[http://www.Chattanoogachamber.com/porter/art/CRGI\\_report.pdf](http://www.Chattanoogachamber.com/porter/art/CRGI_report.pdf)

**San Diego**

<http://www.sdrta.org/sdrta/home/home.html>

**Silicon Valley**

<http://www.jointventure.org>

**Pittsburgh**

<http://www.heinz.cmu.edu/ced/topics/t4inc2/cluster.html>

**Rochester, New York**

<http://www.connectrochester.com/success.htm>

**Tuscon, Arizona**

<http://www.futurewest.com>

**Washington Software Alliance**

<http://www.wsal.org>

**Wellington, New Zealand**

[http://www.smartwellington.co.nz/smart\\_industries/p3\\_1.htm](http://www.smartwellington.co.nz/smart_industries/p3_1.htm)

**Western Tier New York**

<http://www.develop-wny.com/regional/economics.html>

**D. Cluster Web Sites**

**Connecticut Plastics Council**

<http://www.ctplastics.org/>

**Mississippi Communications and Information Technology Council**

<http://www.cit.ms>

**North Carolina Hosiery Association**

<http://www.legsource.com>

**Northeast Oklahoma Manufacturers Council**

<http://www.ocevnet.org/neomc/>

**Washington Software Alliance**

<http://www.wsal.org>

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