
WORKING GROUP 7 CASE STUDY – CHIHUAHUA, MEXICO

Dialogue, Partnerships and the evolution of Clustering efforts in Chihuahua

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Background – clustering efforts in Chihuahua date from the 1960s

Clustering efforts in the state of Chihuahua started in the 1960s, against a background of national economic deterioration and incipient social unrest, with a series of specific economic development initiatives by the private sector which became institutionalized as the Chihuahua Economic Development Council (DESEC) - the first private economic development council in México.

This private-sector organization turned out to be a very successful actor in public-private dialogue, and is nowadays the longest running mechanism of its kind in México. It has been a reference for many similar efforts in México and, in the year 2000, was an instrumental influence in defining the current national policy for regional development.

DESEC was born at a time when the local government did not have a corresponding office for economic development, so the state government initially depended on the private sector for these activities. From the early 1980s, as the government developed its own capabilities, it continued to actively support DESEC's efforts – initially through funding, staff, and economic information, and later including partnership in establishing several spin-off organizations.

In the late 1980s and early 1990s, this collaboration crystallized in the launching of Chihuahua Siglo XXI (CS21), one of the first cluster initiatives in México. This alliance attracted support from federal agencies in several areas, such as science and technology, tourism and industry. In the period 1992-1998, 9 clusters were developed, the automotive cluster being the largest.

The World Bank co-sponsored the first International Workshop for Practitioners in Cluster Formation in the city of Chihuahua in November 1997, with participants from around 30 countries. In this venue, Chihuahua introduced the concept of Clustering (cluster projects viewed as a process) and stressed the relevance of the human factor.

CS21 – objectives and structure

The ultimate objectives of the CS21 council were to develop a competitive economy in Chihuahua with better paying jobs and a better quality of life, and to establish a consensus-led strategic planning process involving the government and the private sector.

The project was led by a steering committee integrated by a first level state cabinet official and top business leaders. Initially, it contracted consultants to manage the process but soon realized the need for a local counterpart team to manage the daily process and to act as the depository of the technology being transferred by the consulting team.

This counterpart team evolved into a General Coordination Committee dedicated entirely to coordination of all CS21 efforts. The capability of this Coordination Committee developed to the point that successfully advanced the technology transferred by the consultants, while the General Coordinator, Leonel Guerra, established himself as an authority with international recognition.

The process started with a series of meetings by industry that identified strengths, weaknesses and opportunities for stronger linkages. These meetings involved businessmen, government officials and university professors. This process also provided the opportunity to identify and involve key private-sector players and potential leaders, those with knowledge of their industries and proven commitment to CS21. These leaders eventually led the cluster groups, while the Steering and Coordinating Committees provided credibility and support.

The cluster-model structure had three levels. At the bottom, the dialogue process allowed the private sector to communicate its needs in areas mostly controlled by Government, such as infrastructure. The middle level provided fertile ground for joint private-public initiatives, such as supplier development. At the top level, leading companies profited from being able to combine competition and collaboration.

The initiative with most potential for extensive economic impact and public promotion were labeled 'Flagship Initiatives'. Some were cluster-specific initiatives, such as the creation of the Advanced Materials Research Center, but they were mostly cross-cutting, with impact on several economic activities. This is because the virtuous cycle of cluster-infrastructure development is usually started with improvements in infrastructure.

In contrast with other early cluster efforts elsewhere, CS21 recognized the need for a comprehensive effort covering several clusters. Initially, nine clusters were identified, grouped in three areas: Light Manufacturing (automotive, electronics, textiles and apparel); Natural Resources (agribusiness, forest products, materials); and Services (business services, tourism, transport and distribution). More recently, this list has been revised with the addition of some emerging or potential clusters in aerospace, biotechnology and information technologies.

Results – overall economic improvement, and successful specific initiatives

The project has had a major impact on competitiveness and long-range thinking, not only in Chihuahua as whole but also at company level. Although it is hard to isolate the impact of CS21 on the state economy, a comparison with its historical trends and those of other Mexican border states shows a better performance in terms of job creation, investment attraction and overall competitive advantages.

A host of specific projects were implemented in the private sector. In the first five years, over 150 initiatives were developed, and over 60% were successfully completed – an outstanding result. In the automotive and electronic clusters, joint efforts to rationalize and upgrade the local supplier base have taken place. In tourism the physical infrastructure has been strengthened and developed.

The competitiveness of traditional products such as apples, pecans, chili peppers, dairy products, has been increased with the introduction of new technologies. Spin-off organizations established include: Coordinating Council for State Economic Development, Chihuahua NOW_i (an investment attraction organization), Puro Chihuahua (a program to promote Chihuahua products in local markets), Labor Improvement State Council, Supplier Development Center, the Advanced Materials Research Center, the Drought Research Center, and the Center for Research on Food and Development.

Sustaining the momentum – political change endangers continuity

CS21 confirmed to Mexican leaders that co-opetition can yield better and lasting economic and social results and can help reshape a region's economic future. But CS21 also showed that cluster processes in developing countries are highly vulnerable to political changes.

In 1998, a new state governor publicly refused to enter into any private-public dialogue, which meant many activities were suspended and a limited unilateral effort was sustained solely by the private sector. This led to a markedly impaired capability for the region to face the economic downturn before and after the 9/11 events.

A complete turnaround took place when the current state administration took office in 2004. An overall indicator of this evolution is the magnitude of the financial support. What started as a one-time investment of over \$1 million US Dollars in 1992-93, split evenly between the private sector and the state government, became a yearly budget of around \$400,000 US Dollars until 1998. From 1999 to 2004, the private sector sustained an effort of roughly \$100,000 US Dollars. In 2005, the renewed collaboration brought the joint effort back to the initial levels.

The current administration reestablished public-private dialogue at full strength, giving rise to new opportunities, among which are the planned development of an aerospace cluster, spawning from the old automotive cluster.

New structure – CODECH and CNM

The Council for Economic Development of the State of Chihuahua (CODECH) was established in late 2004 to oversee the process. It is headed by the private sector, with the Governor acting as Honorary Chairman. It consists of approximately 30 high-ranking representatives of the governmental, business, labor, and educational sectors.

Following the lessons of CS21, the CODECH is not an implementing body, but rather is in charge of promoting action-oriented, plural organizations in each of the 12 regions in the State of Chihuahua. However, CODECH retains a specific responsibility in coordinating efforts with neighboring Mexican states, with the Mexican government, and with Texas and New Mexico.

CODECH is launching a continuation of CS21 with the name of Chihuahua Nuevo Milenio (CNM). An innovation in this new cycle is the realization of four initial diagnostics by independent consultants, with the intention of adopting a more strategic approach. These diagnostics are essentially concluded, and cover:

1. Competitiveness of Chihuahua: using a model similar to the ones used by the IMD and the WEF, the State of Chihuahua is evaluated against other Mexican states, and the different regions in the state are compared.
2. Long range economic opportunities: this study identifies potential activities for the state and its regions according to global trends in new technologies, relating them to local current capabilities.
3. Regional organizations: assessing the interest and commitment of regional public-private organizations and their capability to sustain a renovated effort.
4. Fast Track Initiatives- identification of initiatives ready for implementation, with the objective of ensuring immediate "small victories".

These four diagnostics facilitate public-private dialogue through the establishment of clear guidelines and objectives. The Fast-Track initiatives provide consensual priorities for short-term action and goal setting.

2006 will see the progressive launching of at least six of the regional projects. Each project will have a design suitable to the local conditions. In the case of the regions around the cities of Chihuahua and Juárez, the projects are again taking a cluster approach with the focus on the potential activities identified in the diagnostics.

From the automotive cluster to the aerospace cluster

The emergence of the automotive cluster in Mexico, and in Chihuahua in particular, was the result of the world auto industry identifying México as a low-cost export platform for small engines and global sourcing of auto components. It has attracted the production of certain types of engines, and a limited range of auto parts – particularly wire harnesses, radios, seat coverings, mufflers, and exhaust pipes. The maquiladoras that manufacture auto parts have played a tremendous role in this process. Many are the only plants that produce certain types of auto parts for the US market. In addition, they are the main generators of employment in Chihuahua and in Mexico.

A more recent development has been the establishment of third-stage maquiladoras, including engineering and design centers and knowledge-intensive work. The third-generation plants are no longer oriented either to assembly or manufacturing solely, but rather to the integration of design, research and development with manufacturing.

All these have resulted in the development of new technical and production capabilities in Chihuahua. One of the more compelling initial results of the diagnostics has been the feasibility of developing an aerospace cluster based on the capabilities developed locally around the auto cluster. Some initial successes have been achieved in attracting international players to Chihuahua, including leading American and French groups, while an effort is being launched to develop local suppliers and infrastructure.

An analysis of different value-chains in the aerospace industry shows some interesting opportunities for Chihuahua. The challenge will be how to leverage the current capabilities and how to steer the joint efforts of government and the private sector. An anticipated advantage of the aerospace cluster is in relation to the long sought goal of supplier development. In contrast with the barriers represented by the high volume/low mix and the corresponding low margins in the automotive cluster, the aerospace cluster is more suitable for qualified local suppliers because of the lower volumes and a higher diversity of designs, and the accompanying higher margins.

Lessons learned

Communication and outreach: From the beginning, CS21 had a very active outreach program stressing its forward-looking name, a distinctive logo and an inspiring theme: “Chihuahua, the first 21st century economy in Mexico”. The communication program included brochures, newspaper articles, public forums and promotional videos.

Roles: The Coordination Committee identified three different roles for the participants in this process: strategists/authors, implementers/actors, and beneficiaries. The probability of success increases in cases where all three roles are embodied in the same person or group of persons – hence the need for truly participative processes.

Institutionalization: For most participants, cluster-related responsibilities are simply added onto other work-related activities. So it is important to formalize mechanisms that support these participants over time. An early attempt in 1998 to formalize the Coordination Committee and other organizational elements, through an Economic Promotion state law, failed when the administration changed, but has been retaken recently and is currently a priority for the State Congress.

Managing the consultants: CS21 avoided the common trap of shifting project responsibility to the consultants by embracing at an early stage the central role of local leaders. In fact, local leadership was so active and involved that the support of the consulting team was utilized to its full extent. Key factors were the Coordination Committee and a technical counterpart team.

Financing: CS21 was financed equally by the government and the private sector. When the private sector contributes its share, it establishes an initial level of credibility, sets the precedent for funding the action initiatives later and sustains commitment over time.

Collaboration climate: Three central values emerged from the collaboration experience: the acceptance of a joint responsibility for economic development, the need for multiple leadership through the commitment of many champions, and the central role of trust in building social capital.

Monitoring and evaluation: One of CS21's major limitations was the lack of adequate quantitative information to assess current and past performance. A related program was contemplated initially but was not implemented for lack of funding. Currently, this problem is being addressed with a more quantitative approach.

Geographic dimension: CS21 started as a statewide program, but it was later realized that a more regional and local approach was required. Also, a natural result was the formation of a transnational effort at the border cities of Juárez and El Paso, expanding to a larger region along the historic road known as Camino Real running from Chihuahua City to Santa Fe in New Mexico.

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Born in Chihuahua City, Mexico, Dr. Ramos carried out his professional studies at the *Monterrey Institute of Higher Learning & Technology* (ITESM) in Monterrey, N.L., México, (BS in Chemical Engineering, 1973). In 1977, he received a Doctorate degree (Sc.D.) in Chemical Engineering from the Massachusetts Institute of Technology (MIT). From November 1977 to October 1978, Dr. Ramos engaged in laboratory research and in the development of mathematical models for forecasting the physical behavior of polymers at the *Centre de Recherches sur les Macromolécules*, Strasburg, France. As a result of his work at MIT and Strasburg, he has published ten written works and holds two patents.

From 1978 to 1985, Dr. Ramos was employed at the *Grupo Industria Alfa* (the largest conglomerate in Mexico at this time) in Monterrey, N.L., where he gradually advanced from technical competence to positions in financial administration and general management. In late 1985, Dr. Ramos returned to Chihuahua, Mexico, to take charge of a family firm, which he continues to direct to this date.

Apart from his regular activities in the private sector, Dr. Ramos has participated actively in volunteer community work. In 1990, he was founding President of the Chihuahua Center for Quality and Productivity (*CChCP*), and was Chairman of the Board of the private sector organization, Economic Development of the State of Chihuahua (*DESEC*). As a result of his involvement in both organizations Dr. Ramos has published several articles, developed various materials, and imparted conferences and related presentations. In addition, Dr. Ramos sits on the boards of Coparmex (the national employers association) and Tecnológico de Monterrey Campus Chihuahua. Since its inception, Dr. Ramos has had an active role in the Executive Committee of the Chihuahua Economic Development Board (CODECH).

In 1995, Dr. Ramos was invited to the State of *Campeche*, in Southeast Mexico, to present his findings in Project Chihuahua Twenty-first Century, which resulted in a similar effort in the State of *Campeche*, denominated "Transforming Campeche". Also, Dr. Ramos has assisted similar programs in the Republic of El Salvador, the Republic of South Africa, the Northeastern region of Brazil and the Dominican Republic. From Oct 2000 to May 2001, Dr. Ramos worked full time as advisor to President Fox on regional economic development. Currently, on an honorary basis, he is the senior advisor for the Chihuahua Nuevo Milenio Project (the CODECH leading project).

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