



Clusters and the Coordination of Private Sector Development Policies

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Aim of this paper

- Discuss the economic rationale of private sector development (PSD) policies
- Focus on coordination failures and on cluster development policies to remedy them
- Initial evidence from IADB programs in LA.
- Preliminary results and lessons learnt

The economic rationale for PSD policies

1. Market failures vs. government failures
2. The microeconomic foundations. Technological Capabilities and market failures in technology and learning
3. When the “system” fails
4. Coordination failures
5. Who should identify and address these failures?
6. New Industrial Policy: Search Networks and System Integrators

1. Market failures vs. Government failures

- Market is the optimal way of allocating scarce resources
- Public policies need to offset pre-existing market failures; Skeptical stand towards government intervention.
- Typical market failures: externalities, market power, information problems (asymmetries, incompleteness), public goods, knowledge..
- Yet existence of market failures does not by itself establish the case for intervention.
 - Design of interventions require information and skills,
 - effective implementation requires autonomy, skills, impartiality.
- Thus Governments may “fail”, and the related costs may more than offset the benefits of intervention.
- Sometimes ideological assumption that Governments are bound to fail more frequently in developing c.s, and that Governments never learn.

2. The microeconomic foundations. Technological Capabilities and market failures in technology and learning

- Neoclassical case against interventions based on a particular conceptualization of *technology at the enterprise level* ;
- An alternative is the “**technological capability (TC)**” approach to understand innovation and learning in developing countries. TCs are the skills- technical and managerial – firms need to utilise technology efficiently and improve upon it.
 - This draws on the evolutionary approach, and on concepts such as tacitness of technology, and technological efforts;
- Thus, technological change is complementary to production.
- No essential difference between absorbing, adapting and improving technologies and “breakthrough” innovation
- A learning process is always needed, and needs to be learnt.
- The macroeconomic environment and the policy support framework strongly affect the development of TCs.

3. When the “system” fails

- Building on the idea of “... national, regional, local **“systems” of innovation** that influence the development, diffusion and use of innovation” (Edquist, Nelson, Lundvall, ...);
- Innovation is not sequential but the result of interactions among many actors within a system: innovation is context-specific and interactive
- Institutions shape the actions and incentives of firms through laws, technical standards, public funding, social rules, ...
- The flows of knowledge within the system are crucial (access to complementary knowledge is prerequisite for firms to innovate);
- Differences between developed and developing countries..... Often focus on different organizations;
- Policies need to address the failures of the system.

4. Coordination Failures

- **Interdependence** between production and investment decisions in upstream and downstream segments of industry, and with the actions of other firms and organizations influencing infrastructures, intermediate goods and public goods provisions, regulations,....
- With market failures in these intermediate markets, the economy could be trapped in a low investment equilibrium; Failure to coordinate individuals' actions leads to a sub-optimal equilibrium
- Rosenstein-Rodan's notion of underdevelopment traps: no sector would be profitable industrializing alone (e.g. an airport with no hotels, train personnel in fashion design with no firms....)
- **Government coordination failures**: when multiple agencies and programs try to promote PSD without proper coordination

Coordination failures frequently occur at the local (cluster) level, but it is right in clusters that such failures may be addressed.



5. Who should address/identify these failures?

Old and difficult question

- Not anymore two alternative extremes:
State vs. Market, or Government vs. Private Sector
- In fact, greater reliance on markets needs a more proactive role for the government (not *vice versa*)
- The issue is: How to exploit the best capacities of both?
- Build **clever, dynamic and pragmatic partnerships** – inducing smart and effective forms of collaboration.
- PSD policies as a process of economic **self-discovery** in a broad sense, with an interactive process of strategic cooperation between the public and private sectors to elicit information on business opportunities and constraints, and also generate policy initiatives in response (Rodrik, Hausman)
- Partnership at the national as well as at the local level



6. "New Industrial Policy". Search Networks and System Integrators

Somehow along similar lines, proposing same best practices (Sabel et al.)

- Aims at “.... Solving economic development problems without picking winners”.
- Focus is on
 - ✓ bridging private-public institutions (*Fundación Chile*)
 - ✓ Business networks linking global and local (i.e. search networks) like innovation clusters & value chains, diasporas)
 - ✓ Best performers in public and private sectors.
- Target to generate missing connections – without allowing rent-seeking – and start a process of discovery have low enough cost to be profitable.
- System integration: move from good programs to good systems (Tekes, Corfo, ...)

Clusters as Coordination Devices

Coordination failures frequently occur at the local (cluster) level, but it is right in clusters that such failures may be addressed.

What clusters are

- Agglomerations
- But also JA made possible by it...

and what they can become...

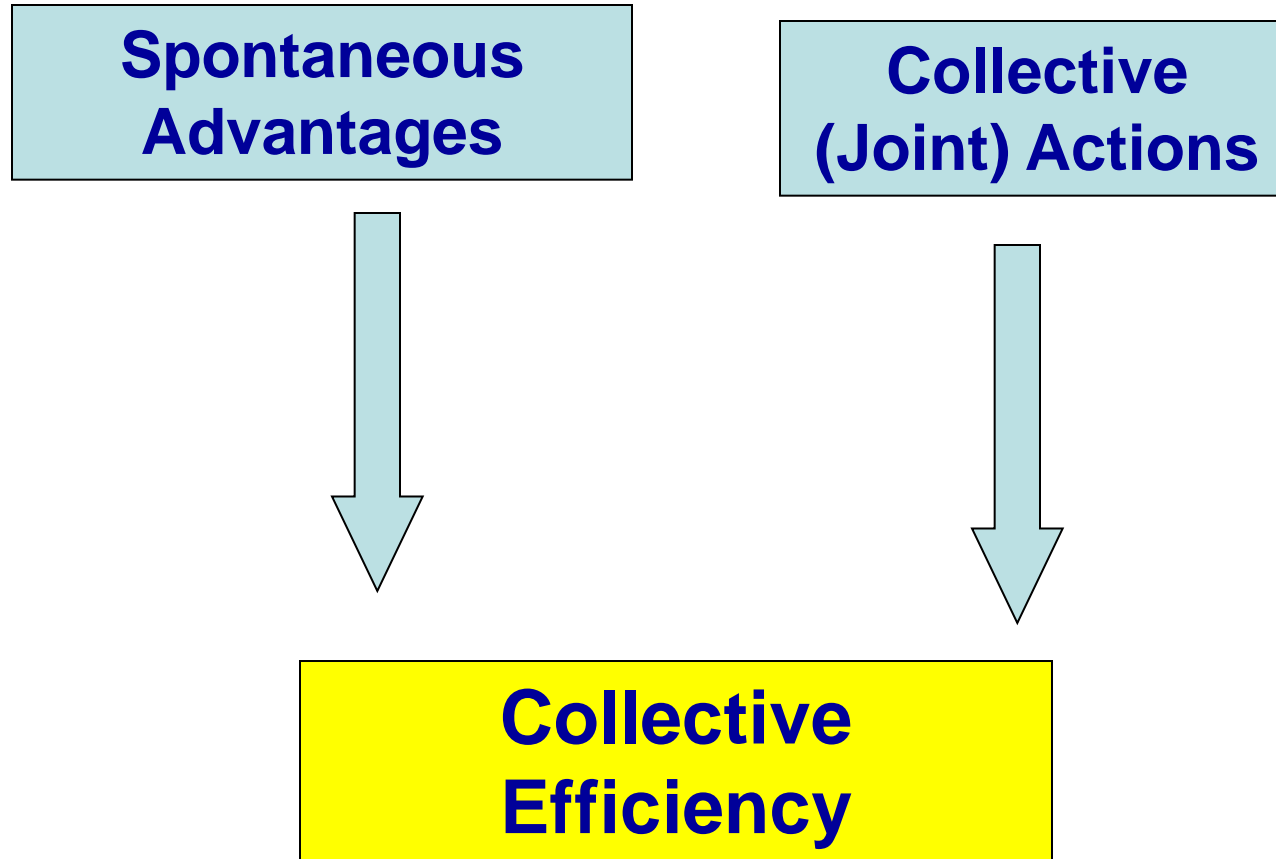
- Evidence from IADB cluster programs

A Cluster is a geographical agglomeration of specialized enterprises in related industries

Firms (SMEs) localized within clusters benefit from **collective efficiency** (from which they derive their competitive advantages, Schmitz, Kaplinsky et al.):

- Together, they generate **external economies**, that may affect (*spillover*) other firms (involuntary effects – passive – of participating in a cluster);
- They may carry out **joint actions** (conscious effects – active – of participating to a cluster);

From casual advantages to collective efficiency



External economies

- The availability of a pool of specialized skills;
- Cheap and readily available supply of specialized inputs;
- Easy access to specialized trade and technical knowledge and rapid dissemination of information;
- Improved market access: the concentration attracts customers.
- Relationships based on mutual trust and shared values (social capital)

Tipology of Joint Actions Nadvi, 1999, Dini

No. Of Firms	Horizontal	Vertical
Many	Territorial Agreements/projects Cooperation in business associations, Joint participation to trade fairs, collective provision of business development services	Sectoral Agreements or projects backward with providers, and forward with traders and customers
Few	Horizontal Networks Joint purchase of inputs, sale with a common brand	Vertical Networks

Clusters are **different** from Cluster **Policies**

- Cluster Policies mainly directed to foster and improve joint actions.
- Increasingly popular, as they often address many old concerns of development policies: SMEs development, regional promotion, export promotion, sectoral policies and innovation
- Cluster policies are also attractive because they are not replacing previous successful PSD policies, rather they present a tool for their integration and coordination

Clusters Programs in LAC

The Region has begun to adopt cluster policies over this decade, some countries earlier than others. IADB participates in approximately thirty projects of clusters in LAC, including loan operations and MIF

National Programs

- Non-financial support to clusters
- Cluster support within a larger SME promotion program
- Cluster support as part of export promotion programs

Sub-National Programs

- Programs providing financial and non-financial support
- “All-inclusive” Programs: financial and non-financial support, infrastructure, training and business climate.
- Institutional strengthening for local clusters development

Cluster Programs at IDB

	Country	Project Name	Approval	Amount (millions)		% Disb.
			Date	Total	IDB	May 2010)
1	Dominican Republic	Programa de Desarrollo de Ventajas Competitivas	Sep-03	13,5	9,4	100,0
2	Honduras	Programa para el Fomento de la Competitividad Empresarial y Gestión de Comercio Exterior	mag-03	11,2	10,0	97,2
3	Panama	Programa para el Fomento de la Competitividad	giu-02	10,0	7,0	95,1
4	Chile	Programa de Agencias Regionales de Desarrollo Productivo	dic-06	40,0	20,0	60,5
5	Argentina (Mendoza)	Programa de Desarrollo Productivo y Competitividad de la Provincia de Mendoza	lug-05	116,6	70,0	45,9
6	Argentina (Río Negro)	Programa de Apoyo a la modernización Productiva de la Provincia de Río Negro	giu-03	86,5	51,9	41,6
7	Uruguay	Programa de Competitividad de Conglomerados y Cadenas Productivas	lug-06	9,0	9,0	40,5
8	Argentina (San Juan)	Programa de Crédito para el Desarrollo de Producción y Empleo en Provincia de San Juan	nov-06	53,0	32,6	39,5
9	Brazil (Bahia)	Programa de Fortalecimiento de la Actividad Empresarial del Estado de Bahía	giu-06	16,7	10,0	26,3
10	Brazil (São Paulo)	Programa Fortalecimiento de la Competitividad de Empresas Localizadas en Sistemas Productivos Locales, Estado de São Paulo	nov-07	20,0	10,0	3,3
11	Brazil (Minas Gerais)	Programa de Apoyo a la Competitividad de APLs (Arranjos Produtivos Locais - Clusters) Estado de Minas Gerais	gen-09	16,7	10,0	0,0
12	Brazil (Pernambuco)	Programa de Producción y Difusión de Innovaciones para la Competitividad de APLs, Estado de Pernambuco	giu-09	16,7	10,0	0,0
13	Brazil (Paraná)		lug-10	16,7	10,0	
	Total			426,6	259,9	42,7

Typology of IDB Cluster Programs

1. Strengthening selected clusters to explicitly address market failures faced by enterprises and better coordinate policies and (public and private) institutions (e.g. Brazil) .
2. Aiming at better coordination and decentralization of PSD policies, public-private dialogue through cluster programs (E.g. ADRs in Chile)
3. Cluster programs with large financing facilities, infrastructure support, training and cluster programs. “Package” of interventions directed by the selection of clusters with notable potential (e.g. Mendoza).
4. Cluster programs primarily aiming at enhancing public-private dialogue for PSD, often embedded in “Policy-based Loans”, Investment Loans, and Technical Advice (E.g. Colombia, Peru, Panama, Guyana)

Typical IDB Cluster Program

- Identification and mapping of possible clusters
- Cluster prioritization (often underlying objective is to reduce inter-regional development gaps by fostering local economic development)
- Strengthen local governance (actors' sensitization and mobilization)
- Joint participatory design of Plans to Improve Competitiveness (diagnostics, business identification, SWOT, benchmarking, action plan)
- Action Plan may include: Training and capacity building to promote inter-firm cooperation, Creation of public or club goods, other initiatives consistent with strategy e.g. TA, R&D, export promotion, marketing, logistics, etc.

Key players of the program in each instance

- ❑ **Executing Agency.** Generally within a Ministry (Industry, Trade or similar)
- ❑ **Strategic Committee.** Includes representatives of the private and public sector to monitor the strategic direction of the program.
- ❑ **Cluster Governance.** It serves several purposes:
 - ✓ represents the cluster vis-à-vis the program
 - ✓ cluster's *stakeholders* use it for collective decision-making
 - ✓ Governance is usually more successful when a program finds an existing cluster leadership (e.g. an active business chamber)
 - ✓ In Value Chains often the leader firm-trader, but program pursues a governance structure that represents the whole chain
 - ✓ Different examples of public-private governance: only businessmen, or other local institutions like development agencies, universities, technical institutes or local governments...



Preliminary Results of Cluster Programs

Different objectives

Short Term

- ✓ Mobilization of local actors
- ✓ Achieve initial support of local businessmen
- ✓ Execution of planned activities

Medium Term

- ✓ Increased inter-institutional strategic coordination
- ✓ Increased inter-firm cooperation
- ✓ Improvement of local business climate and support services for local firms

Long Term

- ✓ Local development
- ✓ Economic growth
- ✓ Export growth
- ✓ Employment creation
- ✓ Increase of productivity/innovation in local firms

Preliminary Results

- Often too recent to show impact
- presence of IADB as an honest broker, and the promise of its financial support, create strong incentives for key players to get involved in the program and improve coordination
- The role of participatory strategic planning generates social capital, useful to provide sustainability to the cluster's long-term objectives

Some Lessons may be learnt

- In order to be successful, they need to enjoy Government priority
- Coordination with other Government bodies and with productive sector is essential
- Priority to clusters enjoying a minimum of pre-conditions for success
- Cluster governance with committed business sector (not everyone)
- Complement local knowledge and experience with foreign ones (reduces risk of capture and static approach, useful comparisons, links with GVCs)
- Monitoring & evaluation
- Efficient and smooth implementation
- Continuous learning and improvements from feed-back

More in general

Policies need to be **context-specific** and – in several regards – cluster- and sector-specific (Pietrobelli and

Rabellotti, 2007). They need to take into account:

- ✓ local specificities and cluster's collective efficiency,
 - ✓ mode of *governance* of value chain(s),
 - ✓ Local sectoral and cluster (filière) specialization
- No general recipes are valid everywhere, regardless local history, idiosyncrasies and peculiarities.
 - **Policies need to evolve** over time

Policy Implications (*for different sectors in LA*)

Traditional Manufacturing industries:

- Promote linkages between firms;
- Promote access to new additional value chains;

NR-based industries:

- Promote public-private collaboration in research and disseminate research to SMEs;
- Promote the adoption of quality and sanitary standards, environmental regulations, and enforce quality inspections and controls;

Complex Product Systems' industries:

- Promote/support “network brokers” (*‘articuladores’*);
- Set up an incentive framework aimed at inducing large firms to source locally and to support their suppliers’ upgrading strategies;

Specialised suppliers (Software):

- Invest in Highly Skilled Professional.

Based on Pietrobelli and Rabellotti (eds., 2007, HUP)



Table 2.1. A Sectoral Approach to Policy Design

Traditional Manufacturing Clusters

- Ensure consistency between micro support policies and programs and the overall macroeconomic framework;
 - Promote linkages between firms;
 - Promote access to new additional value chains.
-

Natural Resource-based clusters

- Promote public-private collaboration in research and disseminate research to SMEs;
 - Improve skills and abilities of producers in the backward stages of the value chain (i.e. agriculture, breeding);
 - Facilitate the entry of SMEs;
 - Promote the adoption of quality and sanitary standards, environmental regulations, and enforce quality inspections and controls;
 - Promote access to foreign markets and overcome non-tariff-barriers (NTB);
 - Improve the access and availability of good basic infrastructures.
-

COPS – Complex Product Systems – Clusters

- Promote/support the active and dynamic role of actors working as “network brokers” (‘articuladores’) of the cluster, and notably of the relationships between the large anchor firms and the local small suppliers;
 - Set up an incentive framework aimed at inducing large firms to source their intermediate inputs and services locally, and to support their suppliers’ upgrading strategies.
-

Specialized Suppliers (Software)

- Invest in Highly Skilled Professionals;
 - Intensify Industry-Research Collaboration.
-

Source: Based on Pietrobelli and Rabellotti, 2004 and 2005.

Cluster policies need to evolve: Salmon in Chile

Tremendous performance:

⇒ From 0 to 25% of world salmon farming

⇒ Exports: 1985 US\$ 1 mill., 2002 US\$ 1,000 mill.

Policies have evolved over time

1978-85 “Initial learning”: regulation, technology transfer, investment in pre-competitive research

1986-95 “Maturing”: physical infrastructure, export promotion and marketing, innovation and development of suppliers (cages, nets, food)

1996-today: “Globalization”: productivity increase and technology transfer, environmental management, biotechnology (diseases and genetic handling)

On Evolution of Policies: the Chilean Salmon Cluster

Table 3.1 Stages in the Life Cycle of the Salmon Cluster and Evolution of Policy Framework

	INITIAL LEARNING 1978-85 from 50 tons to 900 t. price: US\$ 9-10/kg	MATURING 1986-1995 from 1,350 t. to 143,000 t. price: US\$ 4-5/kg	GLOBALISATION 1996-2003 from 150,000 t. to 400,000 t. price: US\$ 2.8-4.5/kg
Main objective	Survival of the fish	Increase volume of production	Increase productivity
Market Destination	Product: fresh Pacific coho (élite market)	Pacific coho, frozen, mainly to Japan	Fillets and portions to the US market diversification: Japan, US, niches in Europe and emerging markets
Commercialization channels	Direct sale and cooperatives	Brokers, associative channel of national production -Salmoexport	Wholesalers (supermarkets) Strategic alliances or integration with final retailers
Technological challenge	Experimental fish-farming Know-how in fattening	Backward linkages (fish farming) Quality certification Increased production scale	National eggs production, Forward linkages (process), Salmon development cycle, systems of automated control of water, light, etc., vaccines and food, Sustainability of the whole system
Public policies	<ul style="list-style-type: none"> • regulation • transfer of technology • investment and pre-competitive research 	<ul style="list-style-type: none"> • Physical infrastructure • promotion and marketing (missions) • innovation and technology development of suppliers (cages, nets, food) 	<ul style="list-style-type: none"> • environmental handling • increase of productivity and transfer of technology (technology missions) • biotechnology (diseases and genetic handling)
Type of company within the cluster	SMEs	SMEs with Presence of foreign groups	Large enterprises (integration and concentration), some TNCs.
Type of supplying company	Few and precarious. Companies seek self-sufficiency	Major outsourcing, local companies gain professionalism	Specialized local SMEs Large presence of highly specialized TNCs
Externalities	“Demonstration effect”	Access to suppliers Critical mass achieved	Dissemination of good practices
Social capital – setting	Pioneering public and private efforts	Associative will between producers	Productive system inserted in a global production chain – commercialization

Source: Maggi in Pietrobelli and Rabellotti, 2006.



Conclusions

- ❑ Some preliminary evidence to argue that coordination failures may be reduced through cluster programs
- ❑ Need of solid evaluations, but some lessons may already be learnt
- ❑ Cluster programs consistent with the objective of the coherence of the whole system of policy support. Beyond good “projects” to good “systems” of consistent and integrated programmes and interventions (e.g. CORFO)
- ❑ Starting point remains the firm-level. Analysis of firm-level weaknesses – notably in innovation and learning – should drive policy-makers and donor agencies.



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Example: Mendoza, Argentina

➤ General Background:

- ✓ It is Argentina's 5th biggest province in terms of contribution to the GDP (3,9%)
- ✓ Semi-arid climate
- ✓ 2,5% of its land surface has irrigation available
- ✓ Most important economic activities: winemaking, manufacturing and tourism

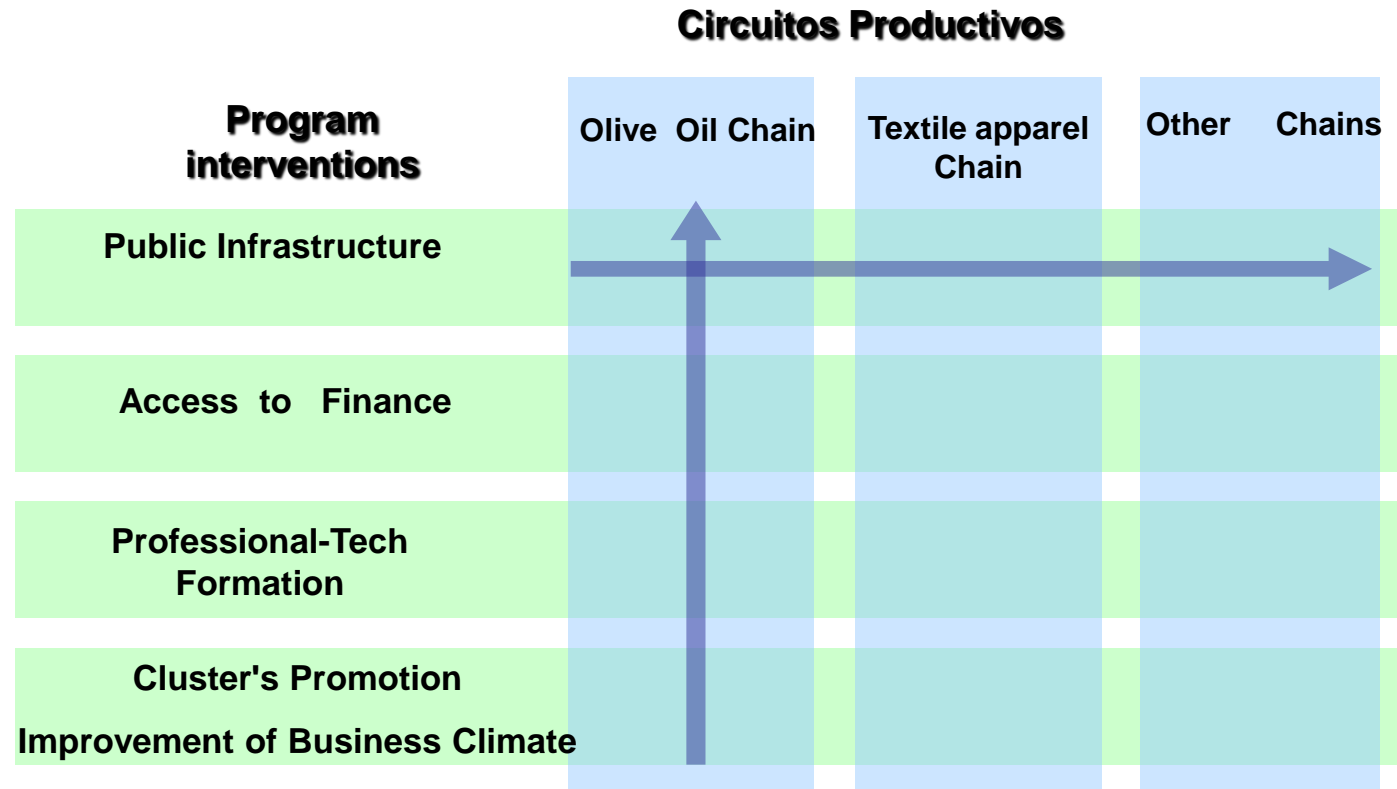
➤ Challenges

- ✓ Low productivity, inter-firm cooperation and internationalization of its SMEs.
- ✓ Low quality of basic infrastructure (19% of roads paved)
- ✓ Lack of financial access
- ✓ "Mismatch" between supply and demand of labor skills



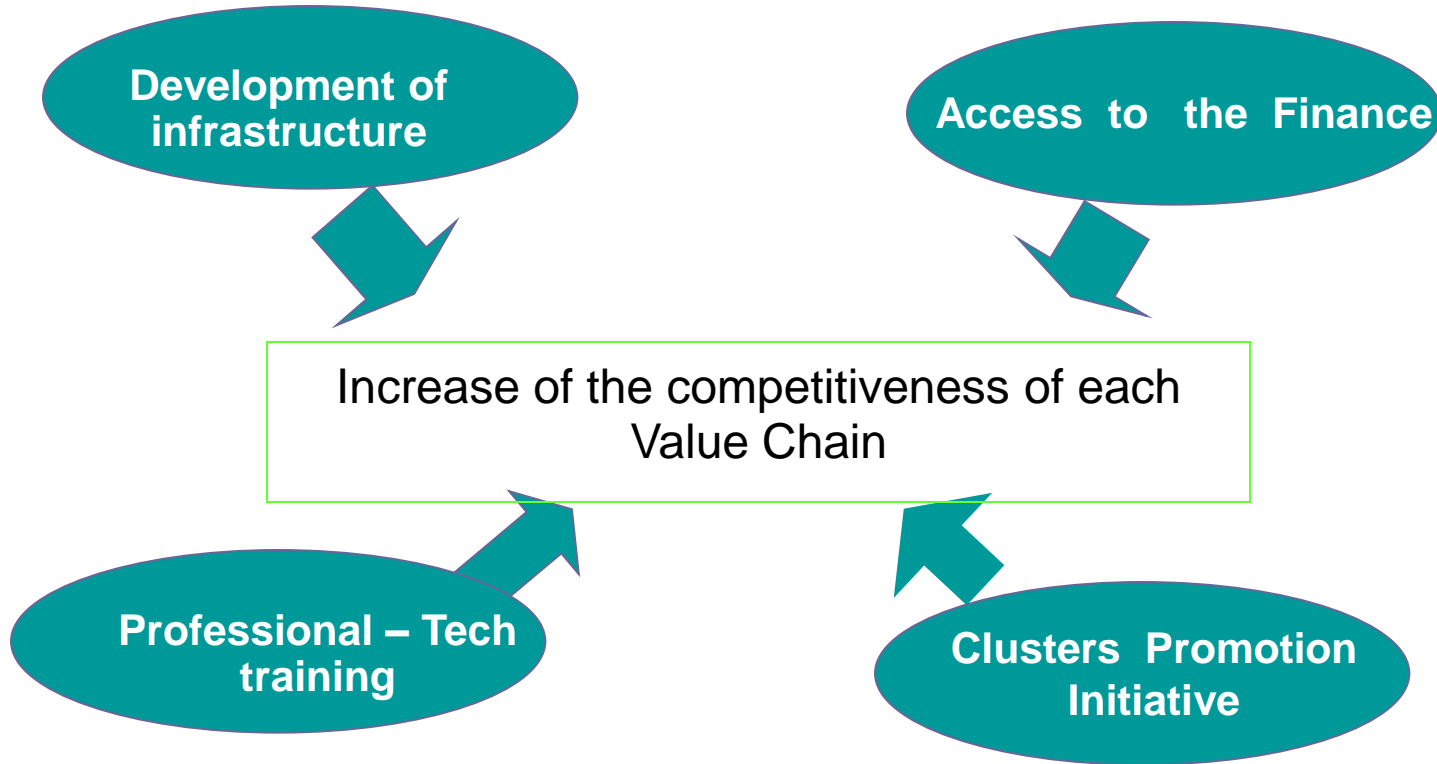
Example: Mendoza

Approach of intervention: The designed program is seeking to articulate horizontal intervention with vertical needs.



Example: Mendoza

Program Structure: Four sub-programs / intervention areas



The Province in parallel has joined the Business Climate Initiative, to improve the business climate in the Province

