

**MAINSTREAMING EXPORT  
DIVERSIFICATION AND  
COMPETITIVENESS:**

**How to Grow and Alleviate  
Poverty Through Exports:  
Building Export Platform**

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**World Bank**

**Armenia, December 2010**

# So... You Want to Grow Through Exports... and Mainstream SMEs into the Export Chain?

- It can be done and is relatively simple
- Yet it requires leadership, commitment and bringing in a number of stakeholders
- Trough a combination of passive and active policies and programs: minimum platform
- Plenty of examples from LAC and others

# A Story Line I

- Common Context: Export led growth strategy
- Developing the exports supply (offer)-Critical block:
  - needs to be supported by an educated and intelligent industrial policy,
  - incentive driven use of public funding, results oriented
  - based on knowledge transfer
  - well targeted geographically and sectorially
  - phased out, sunset clauses and evaluation of results
  - but needs to be complemented by...

# Story Line II

- As a Firm wanting to export? : What do you do?
  - Identification of market?
  - Product characteristics/standards?
  - Identification of client?
  - Evaluation of costs to exports?
  - Permits, Certificates quality and/or phytosanitary?
  - Packaging?
  - Consolidation? Scale to small?
  - Bill of landing?
  - Cold chain?
  - Trucking service?
  - Exit point?
  - Insurance?
  - Custom agent?
  - Certificate of origin?
  - Trade finance?
- Multimodal operator?
- As a policy maker should I assist? In what and how should I develop an export program/platform?

# Rational

- Should Governments Support Export Efforts?
- What should be the Typology of Support?
- Extent of Support?

# Arguments for Support

- Standard Market Failure Issues:
  - Coordination problems
  - Public good issues (information)
  - Externalities
  - Lumpiness/scale/critical mass
- Inefficient drivers-transaction costs-complementary policies
- Counter: Government Failures? Implementation issues
- Educated Decisions, Experimentation,

# Theory and Evidence on Government support for Exports

- Lederman et al (2009), Hogan et al (1992) on export promotion agencies
- Jayanthakumaran (2003) on export processing zones
- Brenton and Newfarmer (2009), Ferranti et al (2004), Maloney et al (2010), on export diversification
- Jayanthkumaran (2003), FIAS (2008), Aggarwal et al (2009) Roberts and Tybout (1997), Eaton et al (2007) on cost of entry
- Rauch and Watson (2003), Brenton et al (2009), Lederman et al (2009), on sustainability
- Rodrik (2004, 2007) on justifying government interventions
- Lederman et al (2009), Nassif (2009) on impact: US\$1 expenses induces US\$20-40 rise on exports

# Export Platform

- Narrow vs Broad Platform
- Narrow: Focus is on the last leg of the export chain/business: assisting export minded producers to export their existing products
- Broad: Focus is on all the relevant elements of the export chain



# Export Platform

- Leadership and problem solving capacity
  - Objectives
  - Programs/Instruments
  - Institutions
  - Evaluation
- 
- A combination of passive and active policies
  - Building through a minimum platform shape to country conditions and endowments
  - Sectorial focus: building on success-from byproducts to diversification
  - Close collaboration and involvement of private sector
  - Joint public-private undertaking

# Objectives

- Overall: Increase the level and content/diversity of exports
- In particular:
  - Increasing levels of exports of existing products (and services)
  - Diversification: developing new products, exporting new products and moving up the value added chain of export products
  - Increasing number of exporters/ integrating SMEs into export chain

# But... watch out for survival rates issues!

- If the issues behind them not addressed, the rates can be quite large and hampering the export program success
- Quality and standards
- Trade insurance
- Scale

# Taking stock

- Know thyself
- Productive and institutional endowments
- Value Chain analysis
- Identifying opportunities and vulnerabilities
- A reality check
- Setting priorities
- Gradual and targeted engagement
- Build on (semi) successes

# Productive Composition:

- As a starting point, need to evaluate current productive composition
- Decompose among the following, since strategy depends on the typology:
  - Commodities-resource based
  - Primary products
  - Indigenous products
  - Niche products
  - Mainstream manufacturing: High, Medium, Low Tech
  - Services
  - Scanning import substitution opportunities
- Evaluate export potential-unit values/quality
- Grow to value
- Build on success

# Differentiated approaches

- Industrial organization of production
- Large firms
- SMEs (and even micro enterprises)
  - Consortia
  - Suppliers
  - Individual exporters
- The critical bottlenecks for successful exporting are very different for large and medium firms than for the small ones

# Elements of a successful strategy

- Know thyself
- Know the actors
- Define your objectives
- Start gradual and strategically focused
- Discriminatory approaches and strategies
- Geographically focused strategy
- Should have short term and medium term objectives
  
- Understand what you need (already have and need to add):  
Institutions, Programs and Instruments

# Components of the Strategy

- **Trade Policy and Access to Markets**
  - Tariff Regime
  - Free Trade Treaties
- **Exportable/Production Supply**
  - Productive/export mapping
  - Quality and Standards
  - Human Capital
  - Innovation and Knowledge Transfer, CITEs, TTOs
  - Clusters and value chains
  - Discovery and new products
- **Logistic and Trade Facilitation Costs**
  - Hardware: Infrastructure and Export Zones
  - Software: Associated Services and Trade Procedures
- **Social/Productive Inclusion of SMEs: Knowledge Transfer**
  - Articulation
  - Consortia
  - CITEs
  - Easy Export
- **Financial Instruments for Trade and Incentives**
- **Strategic FDI-joint venture**
- **Institutions: Delivery Unit, Export Facilitation, Quality Agency, Innovation Agency-Regional focus**
- **Overall Investment Climate**



# Embedded in a new modern and educated Industrial Policy

- Explicit criteria for selection, focalization, use of resources
- Strong emphasis in mainstreaming SMEs into the value and export chain
- Moving up the value added chain
- Adequate job creation emphasis, and local content

# Access to Markets

- Bilateral and multilateral FTAs
- Exchange rates-volatility
- Market intelligence
  - Identification of markets
  - Identification of product characteristics and standards
  - Identification of distributors/buyers
  - Identification of intermediaries/users: Diaspora
  - Run by technical Ministry (aided by private sector) located in Embassy in targeted countries, and not by State or Foreign Relations Ministry
- Communications and Internet
- Export Promotion Agency, but with strong geographical focus

# Exportable Offer

- Quality: services and adoption
- Productivity: knowledge and technology transfer
- Innovation
- Value Chain-Clusters
- Information ICT
- CITEs and TTOs can play major role
- Discovery
- Productive/ Export mapping
- Evaluate possibilities for efficient import

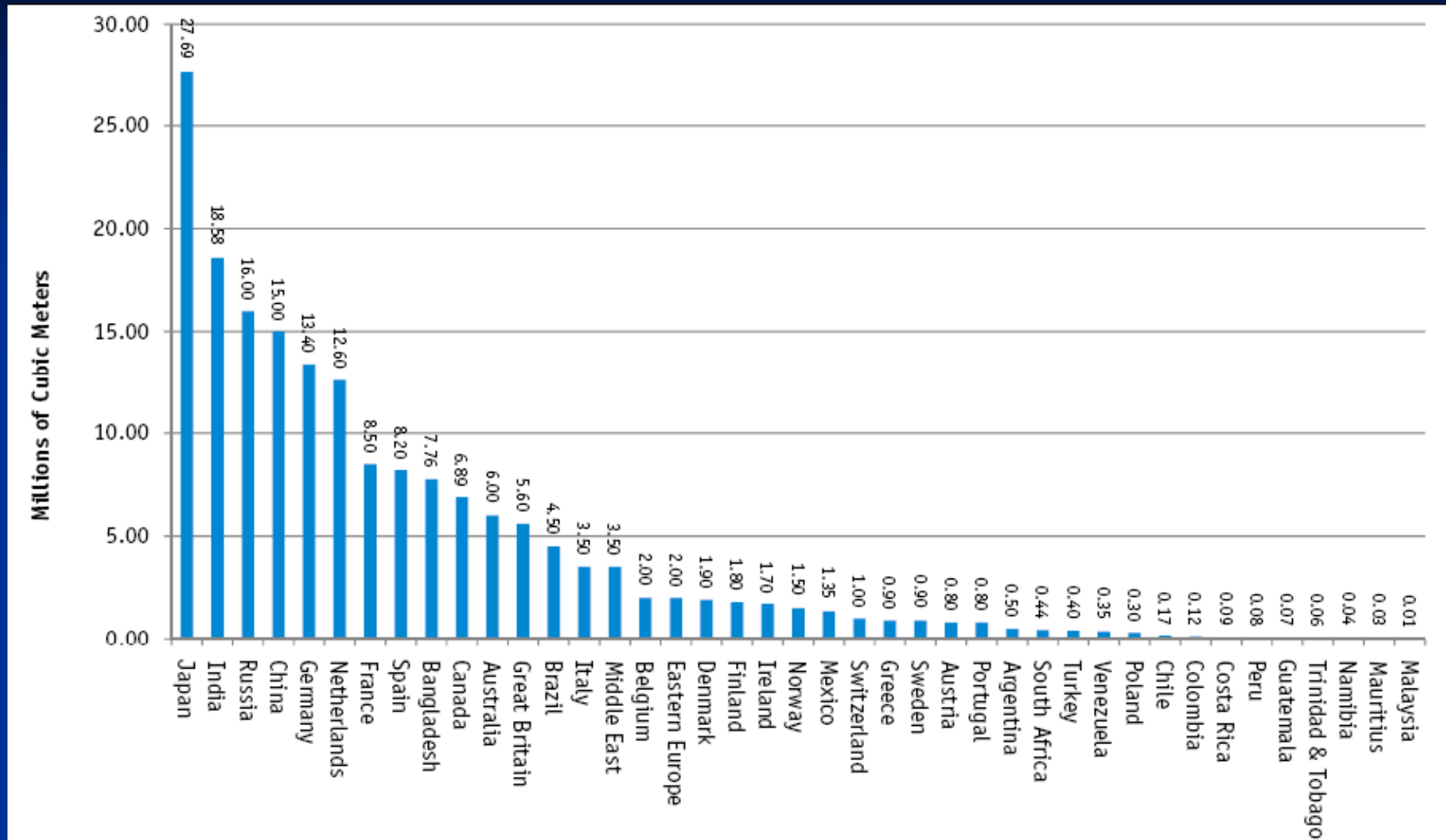
# Infrastructure and Services Logistic Platform

- Hardware
  - Export (and Tourism) corridor
  - Port and Accesses
  - Regional exit points: ports and airports
  - Logistic terminals-network
  - Access
  - Export/Special zones
  - Cross Border
  
- Software
  - Network of Service sites
  - Single windows
  - Dedicated lines: Perishables
  - Privileged lanes: Track record
  - Customs and Inspections
  - Warehousing
  - Cool Chain
  - Multimodality Law
  - Transport services: Trucking
  - Certifications on quality and phytosanitary compliance
  - Digitalization of Certificates of Origin

**Employment Impact of a Decrease of 12% points in logistic\infrastructure costs across industries with different Capital/Labor Intensities**

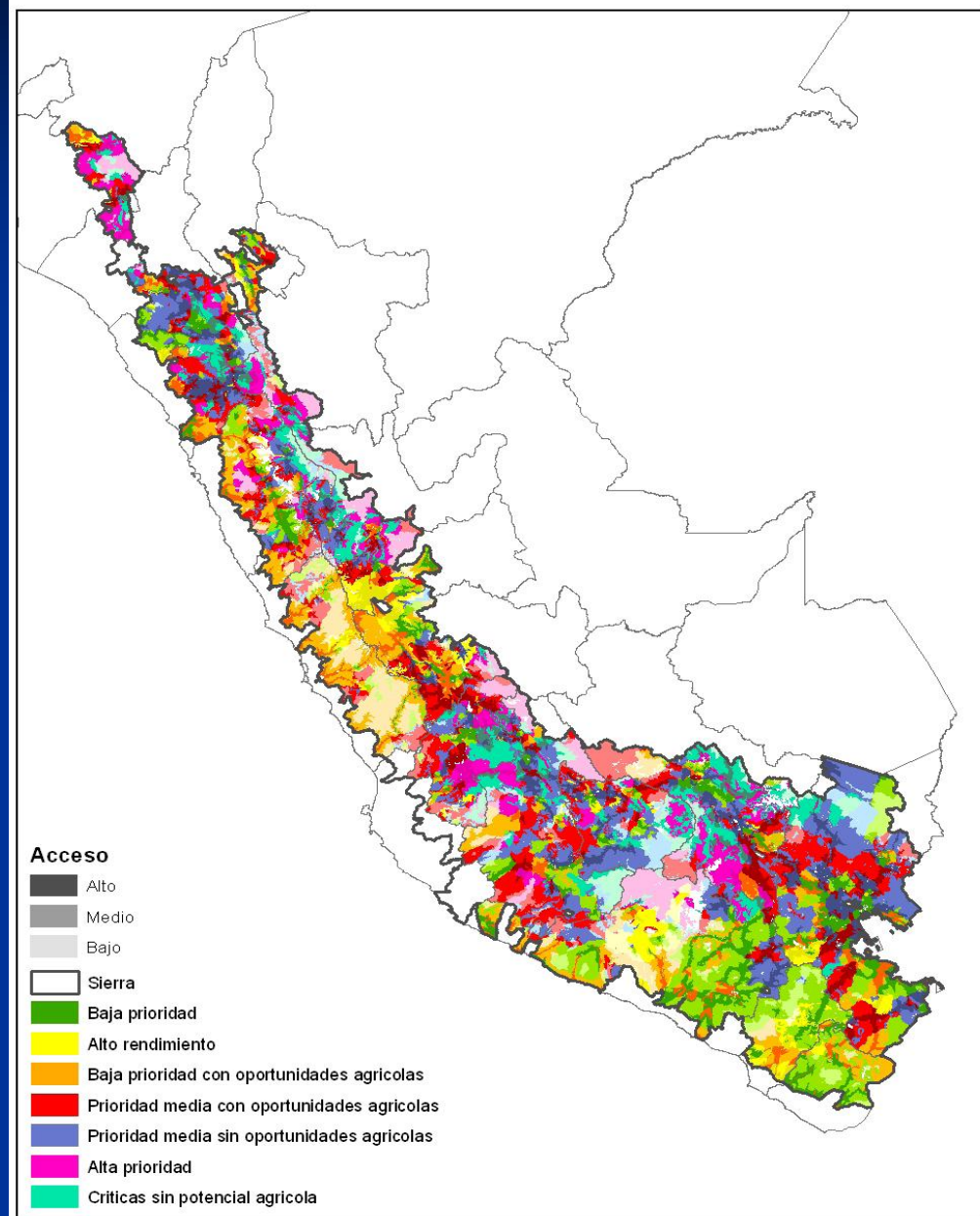
<b>Sector</b>	<b>Demand Increases</b>	<b>Employment Increases</b>
<b>Agro-Industry</b>	<b>9%</b>	<b>10%</b>
<b>Wood and Furniture</b>	<b>10%</b>	<b>12%</b>
<b>Textiles</b>	<b>6%</b>	<b>8%</b>
<b>Leather and Shoes</b>	<b>12%</b>	<b>10%</b>
<b>Mining</b>	<b>7%</b>	<b>2%</b>

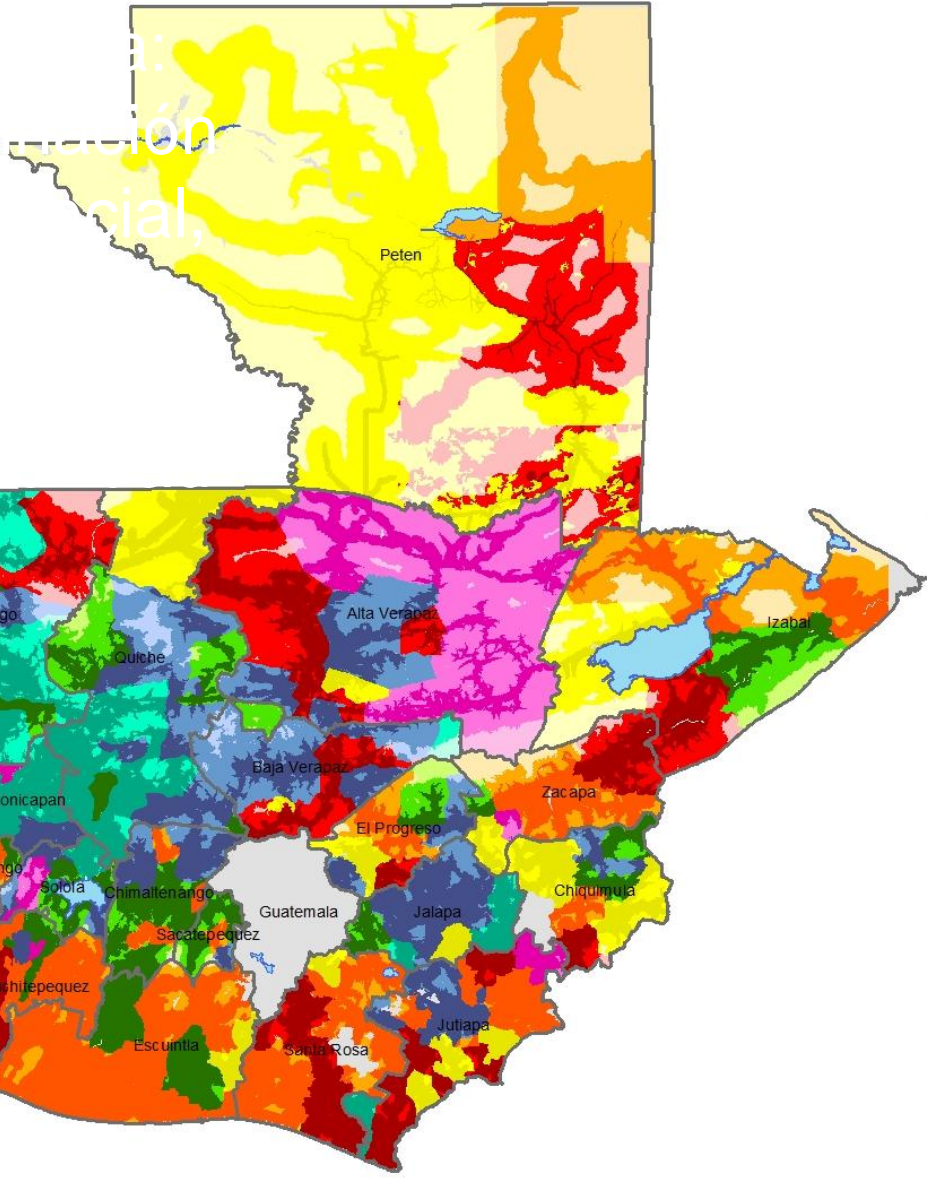
# Global PRW Capacity in 2008



Source: IARW

# Geographic Zones from Peru: Economic Potential, Productive Efficiency, Access Costs, Poverty





2. Priorizando Inversiones Rurales



# Innovation Program

- To support discovery efforts and diversification
- Minimum package-need to be not too ambitious
- Build on strengths and capacities
- Focalized support, geographical and sectoral
- Educated criteria to select sectors support
- Matching grants proven effective
- Separate objectives: i) knowledge transfer-high priority; ii) creation/adaptation of knowledge

# CITEs

- Centers of technology and knowledge transfer, mostly oriented to serve SMEs
- In situ
- Offer technical services, knowledge and technology transfer, conformity to standards, testing, assist in articulation and export
- And training
- Highly focused: metal-mechanic, textiles, software, electronic instruments, medical instruments, jewelry, tourism, paper and pulp, leather and shoes, furniture and wood, art craft, fruits, packaging, agro industry, software, logistic
- Private run/managed
- Capital equipment grant, operating costs through user fees
- Includes new product CITEs
- Results sample: new products (20%), new exporters (25%), productivity increases (70%)
  
- Spain (pioneer), Peru, Mexico, Colombia, Uruguay, Dominican Republic, Brazil, Croatia, Slovenia, Honduras, etc

# Strategic Alliances I: between Industry and Research Centers/Universities

- Need to be facilitated
- Program/Incentive driven
- Results oriented
- Thematic focus
- IPR issues need to be resolved at the start:OECD focus
- Public-Private undertaking
- Selective: building on “success”

# Strategic Alliances II:

## Between large firms and SMEs:

### Consortia

- Need to be facilitated
- Program incentive driven
- Problem/issue solving oriented
- Export diversification/new products often led
- Plenty of examples: Mexico, Chile, Argentina, Peru etc

# Strategic Alliances III: Technology Transfer Offices (TTO)

- Lack of critical mass lead to alliances, often among several universities and private sector associations
- Ex. Chile: 5 universities and 2 private sector associations; Mexico similarly
- Need to address IPR from the start, clarity and aligned incentives: Ammend laws if required
- Needs public support at early stages:phased out

# Discovery

- Quinoa
- Saucó, aguaymanto, coca, asparagus, quinoa, tropical products, acuíferous, medicinal plants
- Value added products
- Brand
- Denomination of Origin
- Specialized CITE for new products

# Financial instruments for Exporting

- **Export insurance**
- **Pre and Post export financing**
- **Credit to buyers abroad**

# Mainstreaming SMEs

- Easy Export
  - Mermaids/Articulators
  - Quality, quality and quality
  - Knowledge
  - Packaging
  - CITEs
  - Internet access/ Centers
- 
- Mermaids/ Articulators I
  - Centaurs/Articulators II: Adding value



- Bottom up approach
- In situ assistant
- Role of communities/local governments

# Special Economic/Export Zones

- Can be quite effective if properly designed
- Addresses infrastructure and bureaucracy issues
- Going beyond manufacturing (includes services and agro-industry)
- A mix of export and domestic market focused activities
- Limiting reliability on unsustainable fiscal incentives

# Articulators

- Mermaids: can be found, trained and hired
- Centaurs: can be identified by mermaids (they have enough charm to get their attention)
- CITES can also play that role
- FDI also

# Articulator I: Mermaids

- Usually specialized individual agents, can be trained
- Functions: identifying communities of small producers and seeking coordination among them; transfer information; identifying centaurs

# Articulator II: Centaurs-High value

- Who are they? They are usually large, formal firms: The usual suspects plus others through digging
- Larger exporters (often looking for scaling up), buyers, firms higher up in the value chain (pulp, canning etc), foreign firms, chains, firms in related business
- Functions: transfer know-how, quality issues, lock in contracts ex-ante (that can be used for securing finance)
- Quality, reliability and scale are the critical factors for Centaurs to get involved (prices obviously help)

# For agro-sector: Typical Assistance to Farmers

- Soil preparation, seed selection and treatment, harmonization and planting density, timing of production, use of fertilizers, fito-sanitary control and testing
- When applicable, procedures for organic certification and the certification itself
- When applicable FSC certification for forestry producers

# Range of products

- All sort of fruits, vegetables and horticulture
- Animal related, meat, cheeses, lactic, fiber
- Fish farming, trout, tilapia, shrimp and other indigenous species
- Peanuts and other nuts, berries, medicinal plants, potatoes, wood and related products,
- Grains
- Art crafts, jewelry, watches, tourism, paper and pulp, leather, furniture, and related products

# Results: An example of mainstreaming micro and SMEs into exports

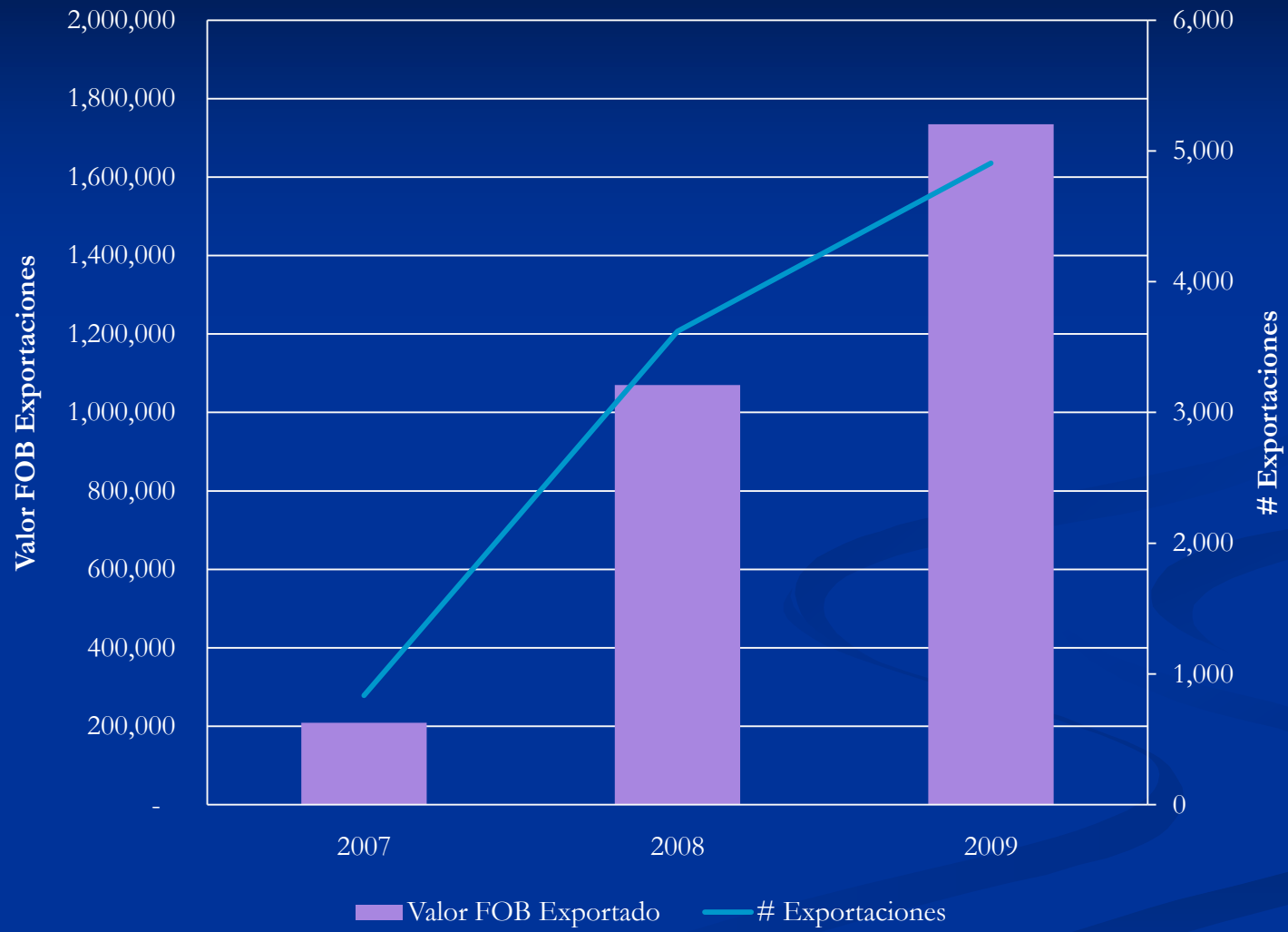
- Within 24 months, in the Peru program 67,000 small producers were articulated, increasing sales by US\$ 65 million, exporting over 50% of their products (tripling their earnings)
- Profile: Small and micro firms including farmers (about 1 hectare holdings), animal husbandry (meat, cheeses, fibers), art crafts , textiles, fish, wood, tourism, jewelry, furniture, miners
- Through about 200 mermaids/articulators



# Easy Export

- Export by post
- From any part of the country
- Avoids all intermediation and logistic costs
- Filing one page trough internet
- Limits in value to 5,000 US\$
- Limits in size 30 to 50 Kilos
- But unlimited sends
- Insurance available
- Extraordinary impact on micro and SMEs: 2000 new exporters, 20 new markets, 50 new products

# Performance Easy Export



# RESULTS EASY EXPORT

(Número of Firms that used the service  
within 2.5 years of implementation)

**2,000 new exporting firms M and SMEs**

**40% from provinces**

**60% from the greater capital area**

**20 new countries**

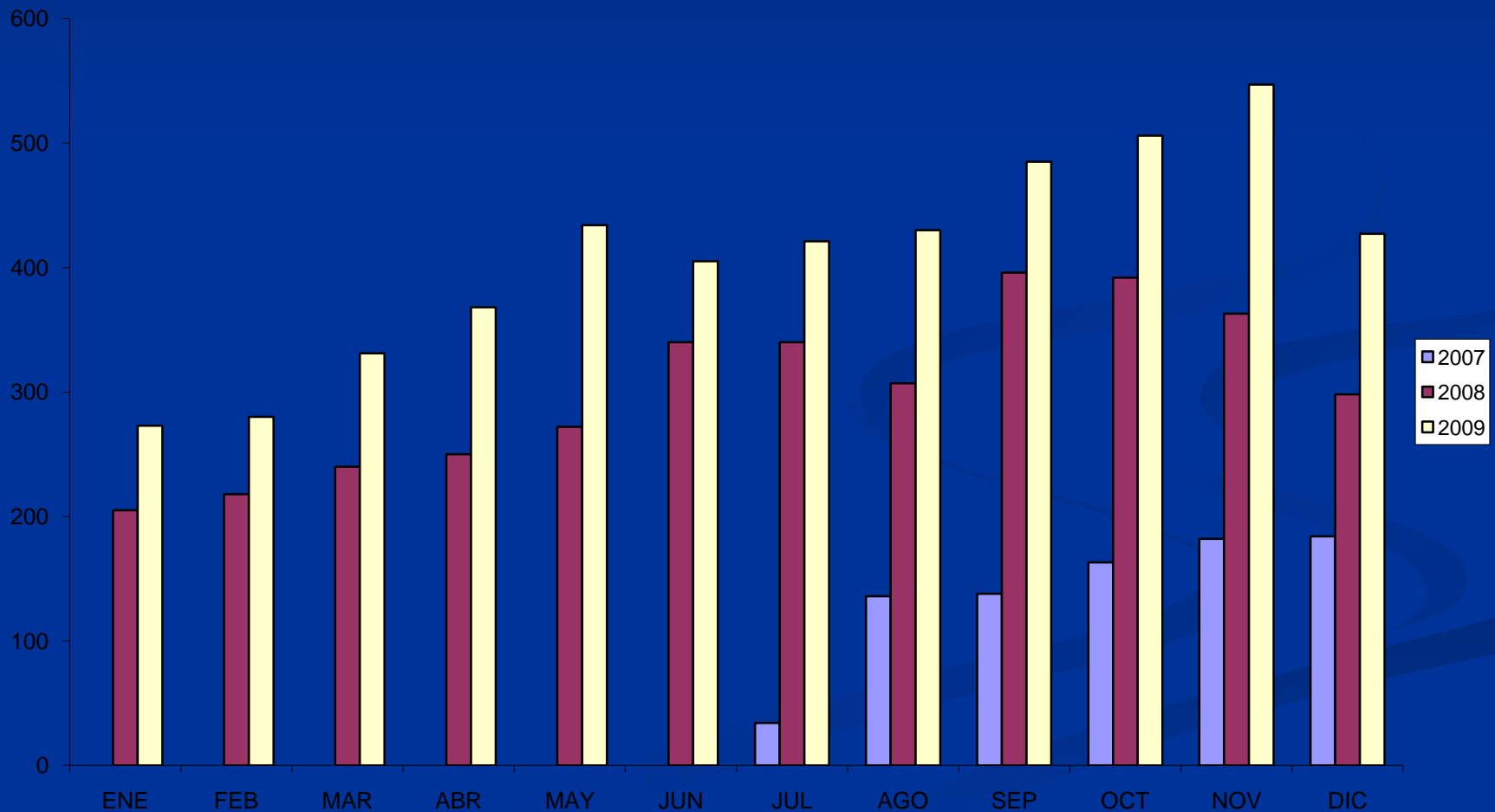
**50 new products**

Fuente: Scomet

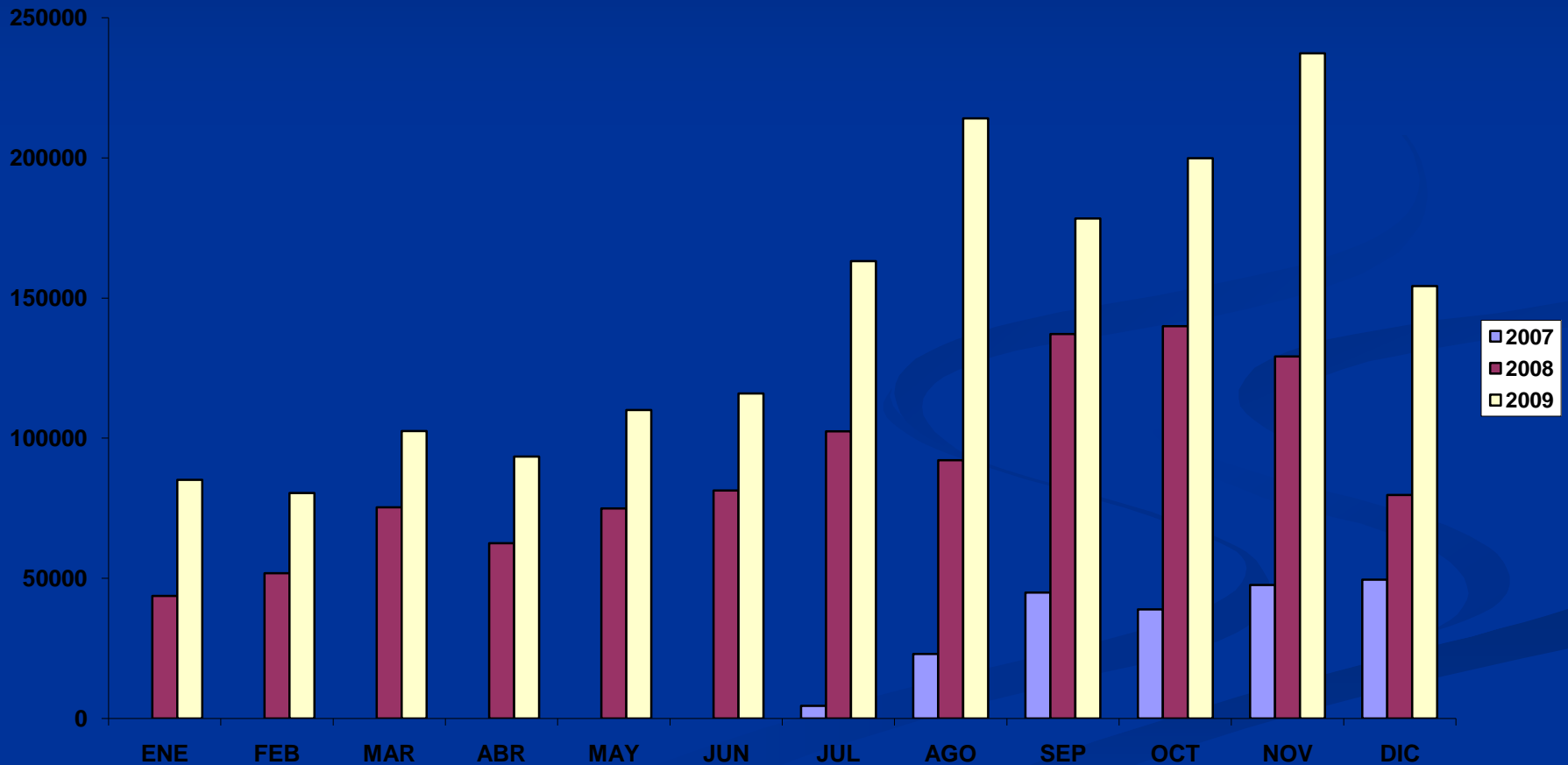
Elaboración: PROMPERU

# EXPORTA FACIL

## Número de Exportos



# Value FOB Exported



# Products Exported

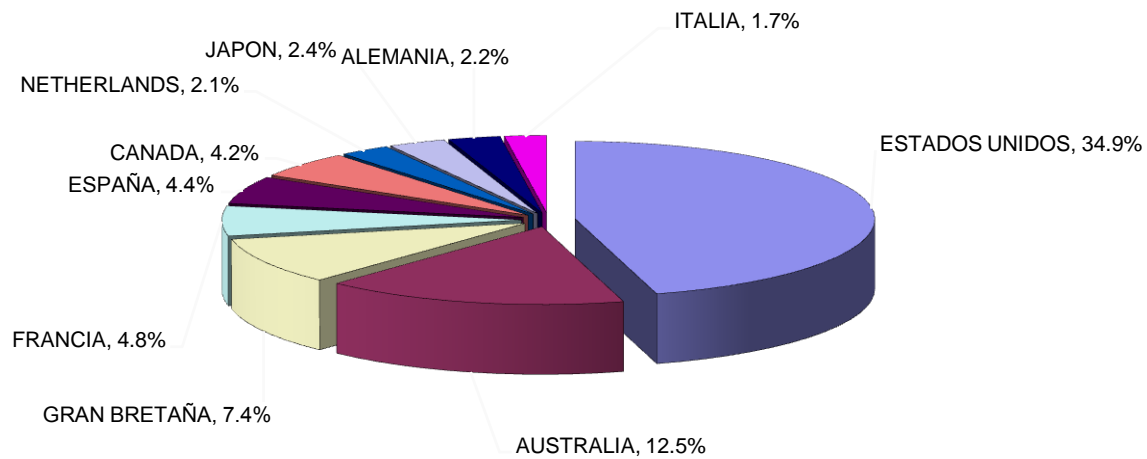
Contenido del Envío	Participación	Participación Acumulada
Bisutería	30.21%	30.21%
Productos Naturales	16.66%	16.66%
Ropa	14.90%	14.90%
Joyería	10.29%	10.29%
Insectos Disecados	3.04%	3.04%
Instrumentos Musicales	2.32%	2.32%
Ceramicos	1.93%	1.93%
Pisco	1.20%	1.20%
Textiles (Alfombras, arpillera, otros)	1.16%	1.16%
Libros	1.16%	1.16%
Juguetería	1.10%	1.10%
Tallas en Piedra	0.94%	0.94%
Postales	0.73%	0.73%
Calzado	0.51%	0.51%
Cabello	0.41%	0.41%
Artesanía	0.32%	0.32%
Litografías	0.29%	0.29%
Carteras	0.28%	0.28%
Medicina	0.19%	0.19%
Otros	12.37%	12.37%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>

# Products Exported to...

PAISES	COD	N° ENVIOS	% PARTIC
ESTADOS UNIDOS	US	485	34.9%
AUSTRALIA	AU	174	12.5%
GRAN BRETAÑA	GB	103	7.4%
FRANCIA	FR	66	4.8%
ESPAÑA	ES	61	4.4%
CANADA	CA	58	4.2%
NETHERLANDS	NL	29	2.1%
JAPON	JP	33	2.4%
ALEMANIA	DE	30	2.2%
ITALIA	IT	24	1.7%
CHILE	CL	24	1.7%
DINAMARCA	DK	1	0.1%
MEXICO	MX	20	1.4%
POLAND (REP)	PL	14	1.0%
BELGICA	BE	8	0.6%
BRAZIL	BR	13	0.9%
SUECIA	SE	10	0.7%
SUIZA	CH	27	1.9%
REP. CHEQUE	CZ	10	0.7%
ARGENTINA	AR	22	1.6%
URUGUAY	UY	1	0.1%
COLOMBIA	CO	17	1.2%
AUSTRIA	AT	13	0.9%
REPUBLICA DOMINICANA	DO	2	0.1%
RUSSIAN FEDERATION	RU	10	0.7%
TAIWAN	TW	8	0.6%
GRECIA	GR	2	0.1%
KOREA (REP)	KR	3	0.2%
PORTUGAL	PT	4	0.3%
PUERTO RICO	PR	13	0.9%
IRLANDA	IE	6	0.4%
VENEZUELA	VE	5	0.4%
COSTA RICA	CR	7	0.5%

PAISES	COD	N° ENVIOS	% PARTIC
NUEVA ZELANDIA	NZ	5	0.4%
PANAMA	PA	9	0.6%
SINGAPORE	SG	5	0.4%
GUATEMALA	GT	1	0.1%
ISRAEL	IL	5	0.4%
CHINA	CN	4	0.3%
CYPRUS	CY	1	0.1%
MALAYSIA	MY	2	0.1%
NICARAGUA	NI	2	0.1%
SOUTH AFRICA	ZA	9	0.6%
TURKEY	TR	2	0.1%
LUXEMBOURG	LU	1	0.1%
VIRGIN ISLANDS OF THE U.S.	VI	2	0.1%
BOLIVIA	BO	3	0.2%
MALTA	MT	1	0.1%
NORUEGA	NO	8	0.6%
UKRAINE	UA	2	0.1%
COSTA DE MARFIL	CI	1	0.1%
EMIRATOS ARABES UNIDOS	AE	1	0.1%
HONG KONG	HK	1	0.1%
HUNGARY (REP)	HU	1	0.1%
RUMANIA	RO	3	0.2%
SAUDI ARABIA	SA	1	0.1%
ECUADOR	EC	3	0.2%
FINLANDIA	FI	1	0.1%
PARAGUAY	PY	1	0.1%
TAILANDIA	TH	1	0.1%
TRINIDAD Y TOBAGO	TT	1	0.1%
LITHUANIA		4	0.3%
GUYANA FRANCESA		1	0.1%
KAZAKHSTAN		1	0.1%
MOROCCO		1	0.1%
LEBANON		1	0.1%
QATAR		1	0.1%
<b>TOTALES</b>		<b>1389</b>	<b>99.6%</b>

# Exports Going to...





# Institutionality-Perhaps the defining factor

- Strong leadership at highest level and political commitment
- Led by a lean Delivery Unit with problem solving capacity
- And a strong Export Promotion Agency
- With a Board composed by private sector agents
- And an equally strong Innovation/Competition Unit with Executive Secretariat
- Capacity and appropriate resources
- Coordination capacity across Ministries and agencies
- Oversight and Monitoring for results and feedbacks

# Functions of Delivery Unit (DU)

- A key role of the DU is accelerating 'lagging' programs. It has led the reform program from the center by:
  - **Monitoring Targets**, which set measurable goals
  - **Monitoring Plans**, which are used to manage delivery and set out the key milestones and trajectories
  - **Monthly reporting** on key themes
  - **Stocktakes**, which the Prime Minister holds every 2/3 months
  - **Priority reviews**, to check the reality of delivery at the frontline
  - **Problem-solving/Corrective action**, where necessary
  - **Delivery reports**, summarizing the government's progress on delivery every six months.
- The process of 'unblocking' selected delivery outputs entails a quick turnaround ( a week), with a team comprised of both internal and external members, and the production of a confidential report to the Prime Minister.

# Location of Delivery Unit

- The unit should be kept simple and relatively lean with a backbone of skilled analysts. Direct access to the political leadership, in order to be able to initiate authoritative and binding problem-solving meetings of senior policy makers and senior civil servants, is important.
- For example: In the UK, the PMDU was first established in the Prime Minister's Office, but has gradually relocated toward the Treasury (and is now jointly controlled) and focuses on 30 Public Service Agreements;
- In Indonesia, the Delivery Unit - the Presidential Working Unit for Supervision and Management of Development (UKP4) - is located in the Vice President's Office and focuses on delivery of the 11 major priorities of government;
- In Malaysia, the Delivery Unit is located in the Prime Minister's Office, reflecting the implementation and service delivery leadership role of the PM, focusing on the KRAs.
- The equivalent unit in Chile is located in the President's Office.

# Two other critical insitutions

- **Export Promotion/Facilitation Agency**
- **Innovation/Competitiveness Agency**
- **Executive Secretariat**
- **Geographically and product/sector focus**
- **Results oriented and accountable**
- **Evolving timetable**

**Latin America and the Caribbean Region  
Finance, Private Sector and Infrastructure**

**Technology Centers  
(CITEs) – A Public-Private  
Partnership for Technology  
and Innovation**

**Jose Luis Guasch  
World Bank**

**Decemebe, 2010**



**Banco Mundial**

# KEY TOPICS

- **The CITEs Model: General Characteristics**
- **Case Study: CITEs in Spain**
- **Case Study: CITEs in Peru**

# The CITEs Model

- **OBJECTIVE AND FOCUS**

- **Technology Centers (CITEs) support Knowledge, Innovation and Technology Transfer by providing specialized services to firms in existing or emerging sectors. By focalizing services in a specific product or strategic sector, they strengthen value chains and many of them are designed to target support for SMEs.**
- **A critical characteristic of CITEs strongly linked to their success is the very focused specialization of their operations. They are not supposed to have a broad coverage, rather they target specific products, such as wood and furniture, or leather and shoes, or metal mechanics or grapes or mangos or artichokes etc.**
- **In particular CITEs (i) facilitate the transfer of knowledge and existing technologies (off-the-shelf) to enterprises; (ii) address missing links in sectoral value chains and quality issues; (iii) identify bottlenecks and opportunities for further innovation of products and processes at the sectoral level; (iv) facilitate the commercialization of new products; (v) provide value added services not reasonably available; and (vii) provide specialized training.**

# The CITEs Model (continuation)

## ■ FINANCING STRUCTURE

- CITEs are usually financed at the start with a grant from by public-private contributions. Centers charge fees for services to firms to ensure commitment and demand-driven service provision. Overtime, centers are expected to cover their operational costs from services rendered to become financially sustainable and free-standing.
- The standard financing structure is as follows. The capital and physical equipment, land and facilities are usually financed through a grant from the public sector or donation. In addition there might be funding for operating costs for a limited period, five to ten year period. Additional financing is provided by user fees from the serviced firms.
- The principle is that the subsidies should phased out, and eventually the CITEs ought to become self financing, from users fees



# The CITEs Model (continuation)

## ■STRUCTURE, MANAGEMENT AND LINKAGES

- A strong private sector participation in management practices and governance structure is paramount for the sustainability of CITEs and their ability to respond to private sector needs.
- To the extent that CITEs require public funds/subsidies to address certain market failures, clear monitoring and evaluation criteria is fundamental to allocate public support.
- The CITEs model should be dynamic, that is should evolve over time responding to the needs of the sector.
- CITEs have to establish linkages and agreements with universities, research institutions relevant in the sector to provide assistance in identification of knowledge and best practices and when appropriate in the generation to new knowledge to address specific sector problems and innovations

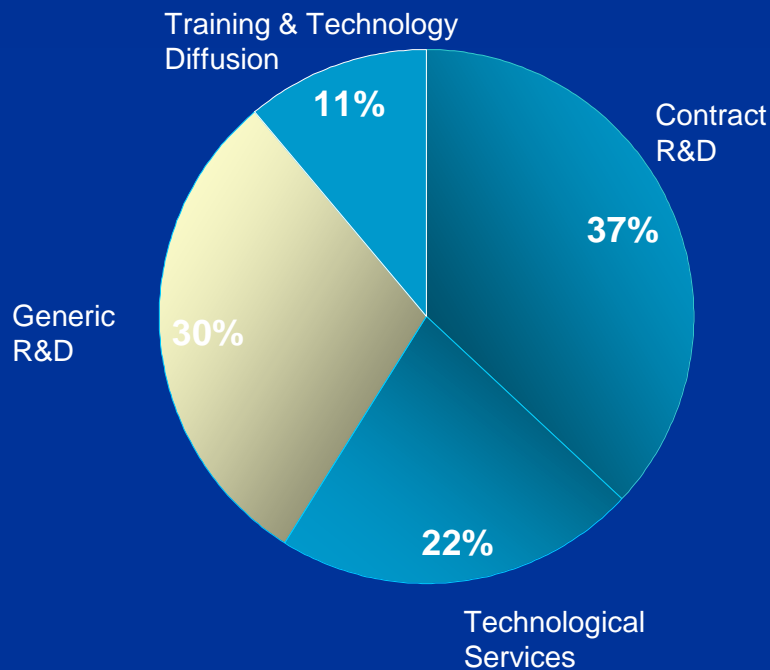
# The CITEs Model (continuation)

## ■ PREREQUISITES

- Selection of sectors and making the case
- Profile of users
- Analysis of potential market demand
- Survey of sector weakness and needs
- Feasibility study

In response to demand from local firms some CITEs can be very active R&D performers while others essentially provide technical services. The right mix of services depends on the development needs of specific countries and sectors

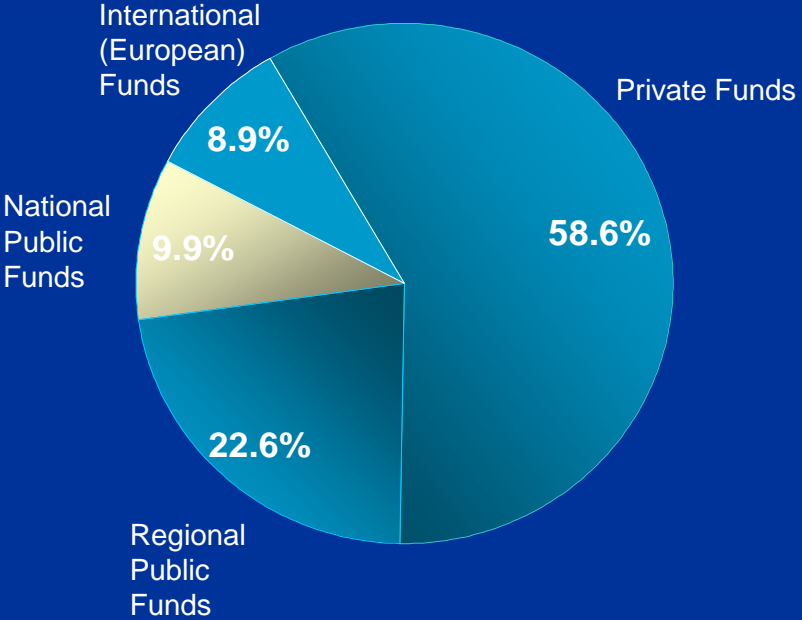
### Service Offerings of Technological Centers in Spain, 2004



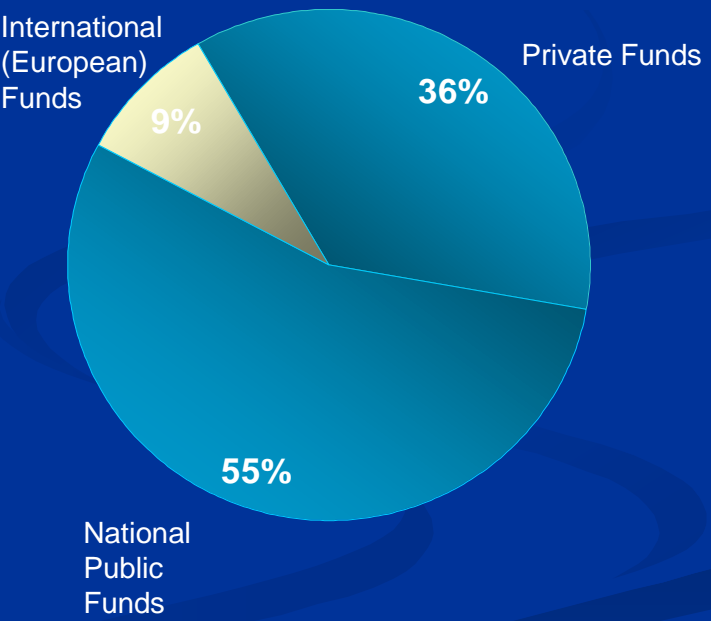
- **Generic R&D:** collaborate in the development of research projects between firms, universities, other research centers, etc.
- **Contract R&D:** develop research and technology development projects directly contracted out by firms.
- **Technological Services:** provide assistance in areas such as quality control, production processes/organization, product design, market information, etc.
- **Training & Technology Diffusion:** offer specialized training and transfer of technological know-how.

The degree of public and private sector contribution in CITEs varies among countries and sectors. It is key, however, that each center formulates a business plan to reach financial sustainability

Financial Structure of CITEs in Spain, 2004



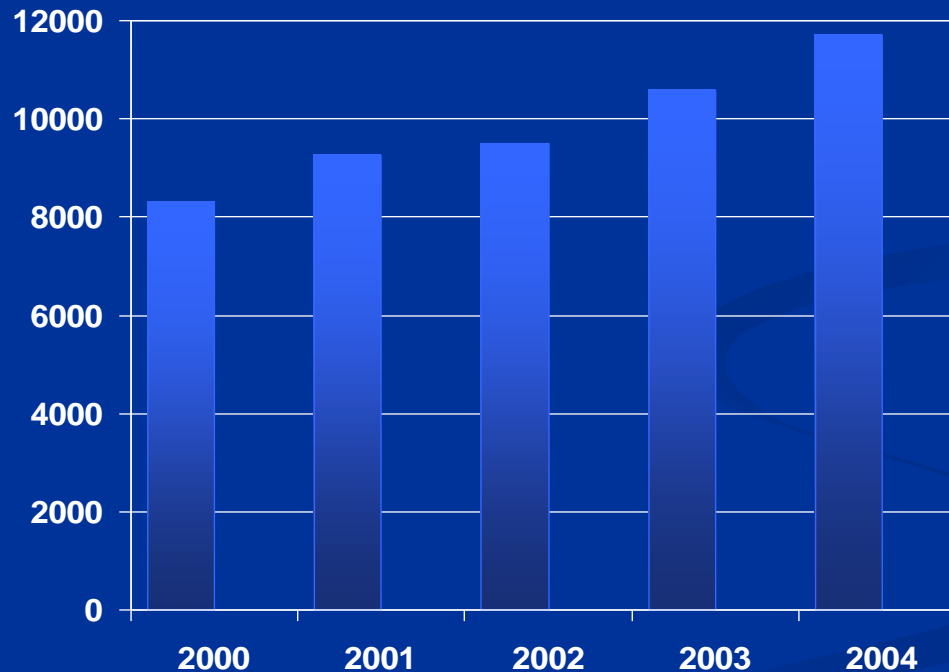
Financial Structure of CITEs in Finland, 2003



Source: FEDIT, Spanish Federation of Technological Centers, September 2005.

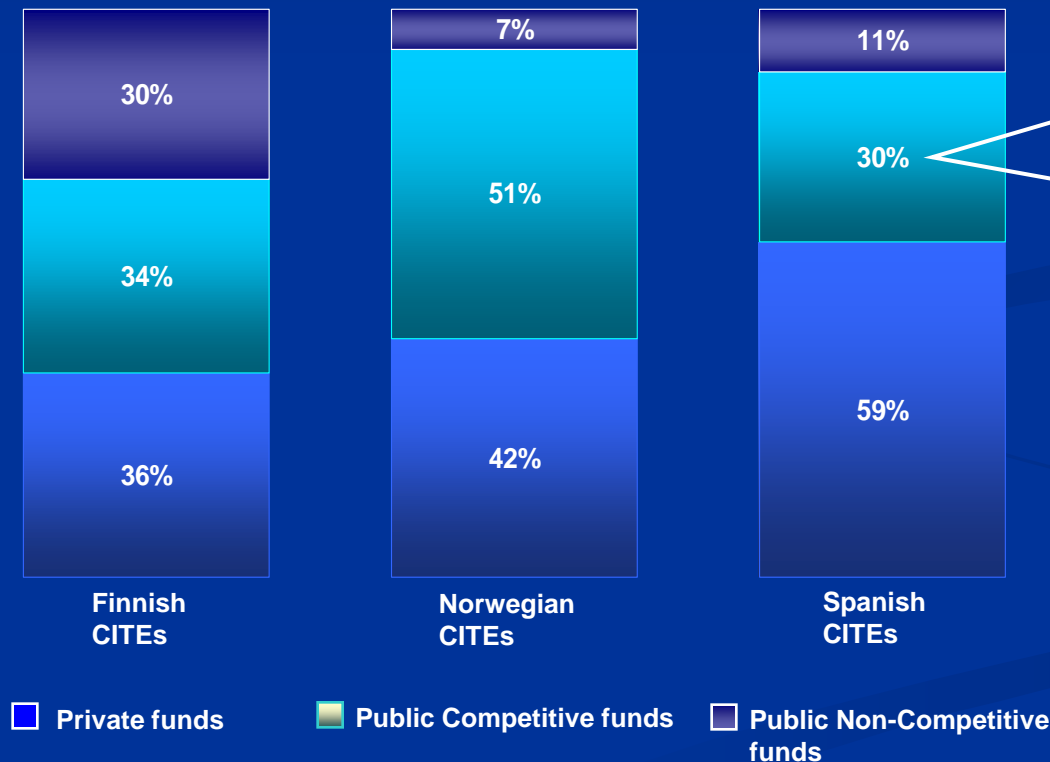
**CITEs should not be driven by the public sector only.  
Strong private sector representation in the management  
structure is key to respond to private sector needs**

**Number of Spanish Companies involved in  
Management and Governance Structure of CITEs**



To the extent that technology centers provide public good type services it is expected that some public funding will be necessary. Therefore, clear monitoring and performance evaluation is crucial to allocate different lines/instruments of public support

Financing Structure of Selected European CITEs, 2003



According to a recent evaluation of the Spanish Technology Center Support Program, public support needs to be competitive and conditional to the achievement of strategic goals\*

Source: FEDIT, Spanish Federation of Technological Centers, September 2005.

\* Refer to Mondrego, A. *et al* (2003). Evaluación de los Centros Tecnológicos Españoles, Informe Final. MCYT y FEDIT. Madrid.

# KEY TOPICS

- **The CITEs Model: General Characteristics**

- **Case Study: CITEs in Spain**

- **Case Study: CITEs in Peru**

# CITEs in Spain

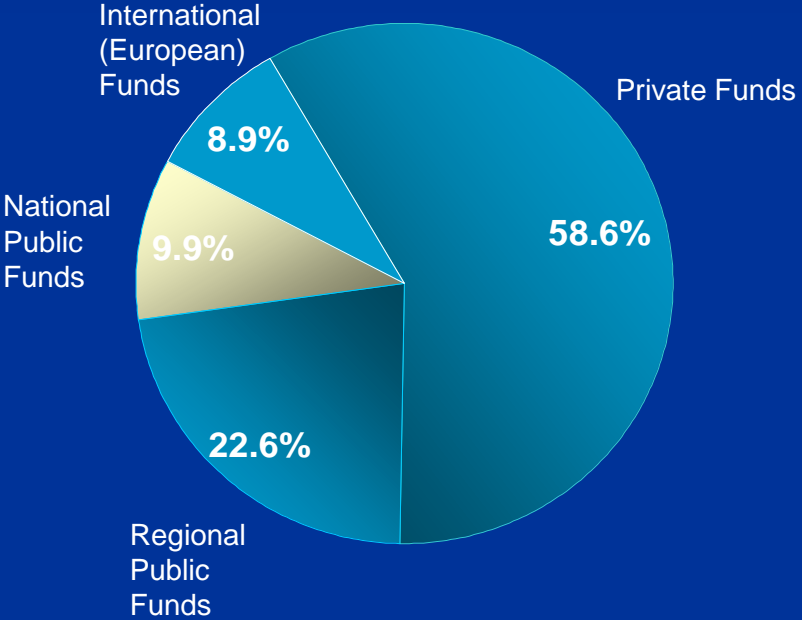
- **Technology centers in Spain generally arose from private initiatives supported by regional governments. Overtime they have become one of the key building blocks of the country's national innovation policy.**
- **Technological services most often represent the lion's share of their turnover. However, in recent years there is a trend towards more R&D intensive centers and towards greater cross-regional cooperation and alliances.**
- **In addition to providing services to SMEs, many Spanish CITEs run incubators to encourage the creation of new firms based on the technology center's research/ sectoral focus.**
- **National (public) support to technology centers is provided in the form of both grants and soft loans. Regional governments follow different approaches/instruments to support CITEs. For instance, while Valencia provides aid on an annual basis, in the Basque country financing can be approved for more than one year.**



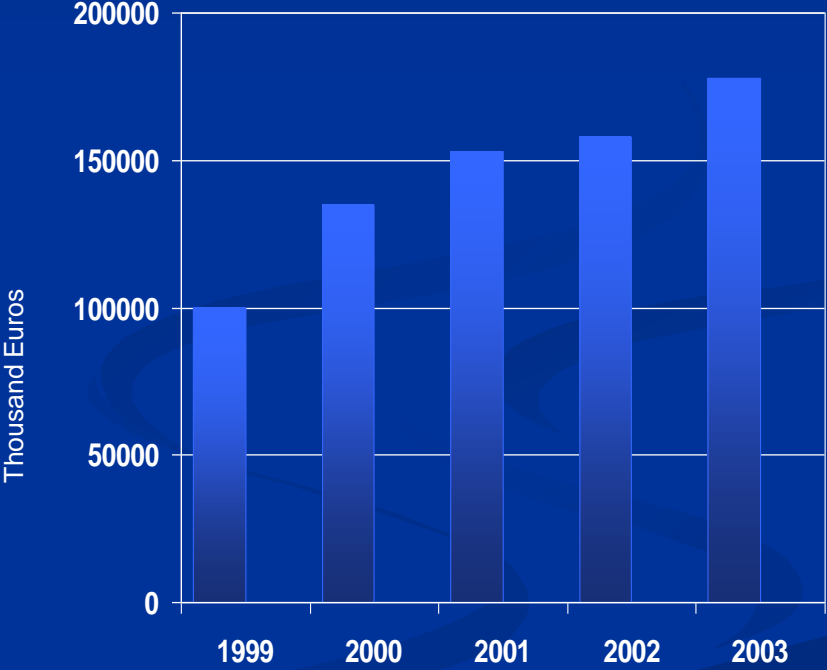


**Spanish CITEs have been extremely effective at collecting fee-based services, which has strengthened their financial sustainability. By 2004, almost 59% of their total income came from private funds**

**Financial Structure of CITEs in Spain, 2004**



**Total Revenues from Fee-Based Technological Services**



Source: FEDIT, Spanish Federation of Technological Centers, September 2005

**The sources and distribution of funds in Spanish CITEs has remained relatively stable overtime. However, by 2010 CITEs hope to increase their publicly (competitive) financed R&D activities to foster more applied research and target high-tech sectors**

Performance Indicator	2000	2002	2004
Annual Client Companies	37,163	22,610	24,900
Client Companies under Contract R&D Projects	2,761	4,404	2,752
Total Income	219 million €	283 million €	326 million €
Income Distribution per Sources of Funds			
Private Financing	61%	59%	58%
Competitive Public Financing	25%	27%	30%
Non-Competitive Public Financing	14%	14%	12%
Income Distribution per Activity			
General R&D Projects	29%	30%	30%
R&D Projects under Contract	36%	37%	32%
Technological Services	19%	19%	21%
Training	11%	7%	6%
Technology Diffusion	5%	3%	4%
Other	-	4%	7%

Source: FEDIT, Spanish Federation of Technological Centers Annual Reports 2000, 2002, and 2004.

# KEY TOPICS

- **The CITEs Model: General Characteristics**
- **Case Study: CITEs in Spain**
- **Case Study: CITEs in Peru**

# CITEs in Peru

- The first CITEs in Peru came about in 1998 as part of a technical assistance program with the Spanish government.
- The World Bank is currently supporting the creation and upgrading of CITEs as a key component of the Trade Facilitation and Productivity Improvement project in Peru.
- A total of 12 CITEs currently operate across different sectors in Peru: 9 are private/mixed centers (overseen by chambers of commerce, research institutions or NGOs) and 3 are public (depend on the Ministry of Production-PRODUCE but have a private sector governing body).
- In terms of the financing structure of public CITEs, government support represents 60% of total funds while services provided to the private sector account for 40%.
- They focus on providing technical assistance/services (quality improvement, market information, design techniques, etc) and training, with a strong emphasis on SMEs.

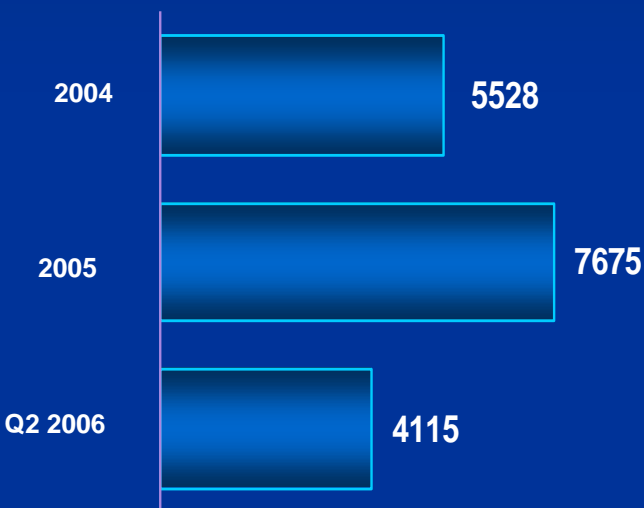


## CITEs in Peru are widely distributed across regions and sectors, focusing in key areas of competitive advantage

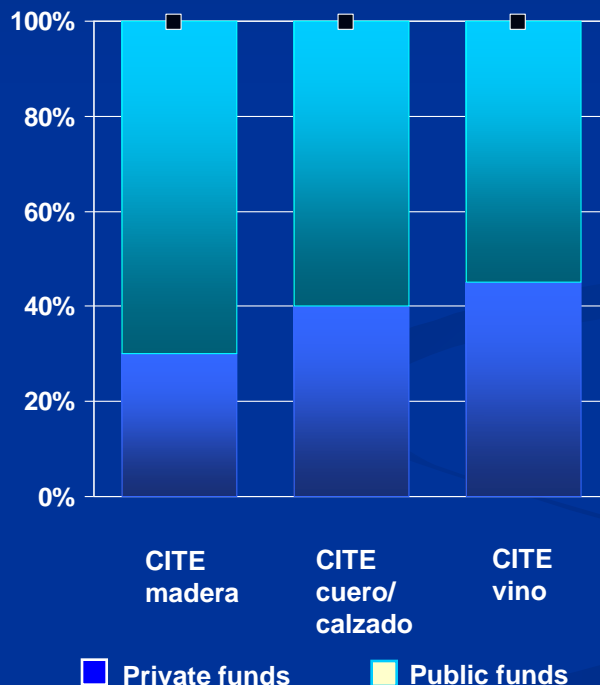
CITEs (Region)	Product/Value Chain Focus	No. Firms Served	
		(’04)	(’05)
CITE leather- Lima	Leather, footwear, and related industries (inputs)	660	630
CITE wine - Ica	Wine growing and related industries	387	328
CITE wood- Lima and Pucallpa	Wood and furniture	84	123
CITE agroindustry - Ayacucho	Fruits and vegetables	5	32
CITE agroindustry - Piura	Mangoes, bananas and <i>algarrobina</i>	60	156
CITE tropical fruits – Loreto	Tropical fruits (coconuts, <i>araza</i> , etc) and medicinal plants	34	48
CITE garments - Arequipa	Garments	43	71
CITE textiles – Arequipa	Camelid garments	32	35
CITE agroindustry – Arequipa	Organic herbs	10	38
CITE agroindustry – Tacna	Olives and wine	40	221
CITE metalmechanic – Lima	Metalmechanic and related industries	16	61
CITE ICT- Lima	ICT	N/A	N/A

# Most CITEs provide technological services and training to SMEs. They are still largely dependent on public contributions/ grants to financing their operations

**Total No. of Individuals Trained by Peruvian CITEs, 2004-Q2 2006**



**Financing Structure of Public CITEs, 2006**



- Since 2001, public CITEs have trained more than 25,000 workers in Peru
- Total budget for public CITEs in '06 amounted to U\$ 829,000, of which an estimated 40% came from private funds. Public funds were mostly destined to cover fixed (laboratories, machinery, etc) and management costs
- Private CITEs are expected to cover all of their operational costs through fee-based services. However, most receive grants from international organizations

# Institutional Support to Technological Efforts of Firms

## 10 Basic industrial services

- Promote inward investment
- Provide export services
- Provide management services

- 10 1. Collect marketing information
- 10 2. Collect data on exports and Imports
- 10 3. Provide managerial consulting

- Provide financial services (accounting, tax assistance, investment advice)

## 10 Technology Information Centers

- Provide information technology to firms including networks, software, Internet capabilities, internet, and databases
- Perform troubleshooting, assistance, and repair to firms
- Provide training in informational technology applications

## 10 Metrology, Standards, Testing, and Quality Control Centers

- Define domestic standards
  - Assist firms in meeting International Organization for Standardization (ISO) compliance standards
- 10 1. Train firms in ISO standards and regulatory requirements
  - 10 2. Test products to ensure compliance with standards and regulatory requirements
  - 10 3. Provide technical assistance to firms
- Help firms with calibration of instruments
- 10 1. Maintain calibrated standards and calibration equipment
  - 10 2. Calibrate firms' machinery

## 10 Productivity Centers

- Improve quality
- Improve productivity, efficiency
- Provide training

## 10 Technological Extension Agencies

- Extend available technology to businesses lacking technical capabilities
- Help firms use cleaner productivity technologies
- Provide information on available technology
- Identify problems and use access to technology sources to solve problems
- Serve as external consultants and assist firms with trouble-shooting
- Promote cooperation of small and medium-size enterprises with larger research and cluster initiatives (South Africa MAC program)

## 10 Research and Development Laboratories

- Design new processes and products
- Train businesses through demonstration, participation and extension
- Implement new technologies
- Import and learn foreign technology
- Adapt foreign technologies to local needs
- Integrate these technologies into economy in collaboration with firms