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# Peru and China as competitors in world markets: The Asparagus case

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# Introduction

## Asparagus : main facts

- Asparagus is a high-value, labor-intensive perennial vegetable crop. It is used as a gourmet product.
- Asparagus is sold in three type of products: canned, fresh and frozen. It is also grown as green or white asparagus. Green is sold mainly as fresh whereas white is processed.
- It is consumed mainly in Europe, Asia and USA.



# World production of Asparagus

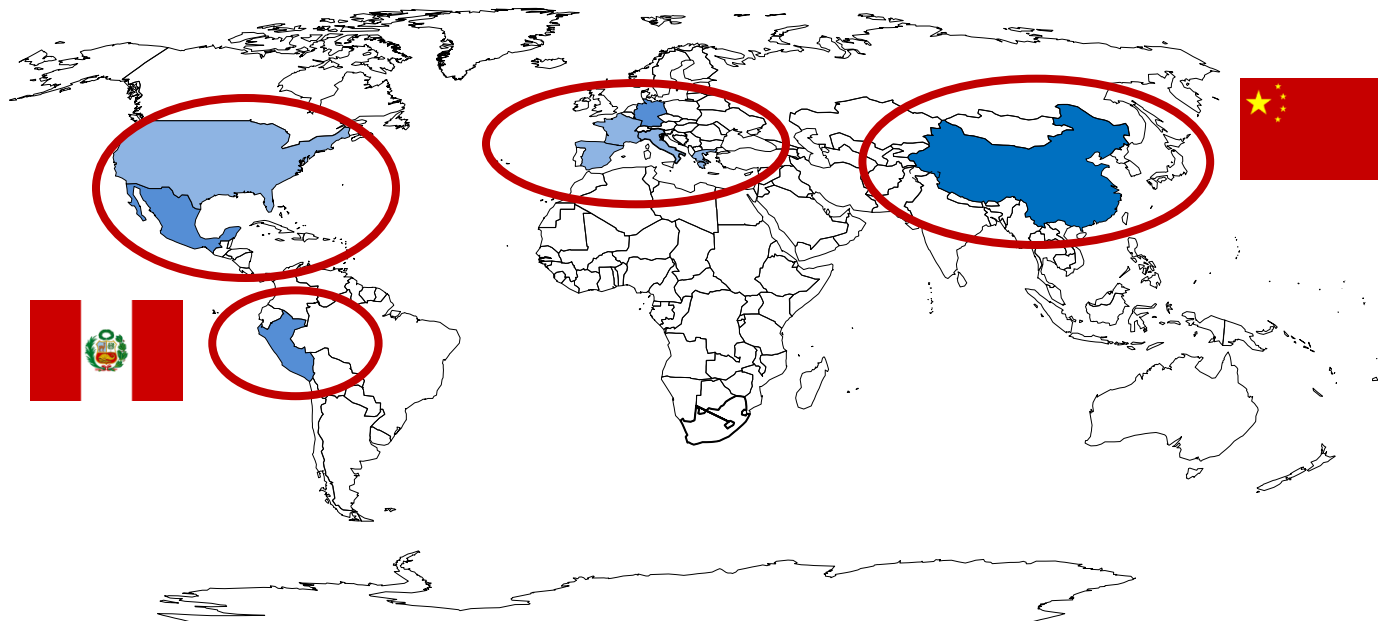
- China is by far the world's largest asparagus producers (89%) followed by Peru (4.3%).
- Main export (US & EU) markets have also important domestic production sector.

World's largest producers of Asparagus (2009)

Country	2009: Asparagus Net Production 2004-2006 (1000 Int \$)
China	5 918 309
Peru	285 681
Germany	89 371
Mexico	58 204
U.S.	45 207
Spain	44 415
Italy	40 502
France	16 767
Greece	15 472

World's largest producers of Asparagus

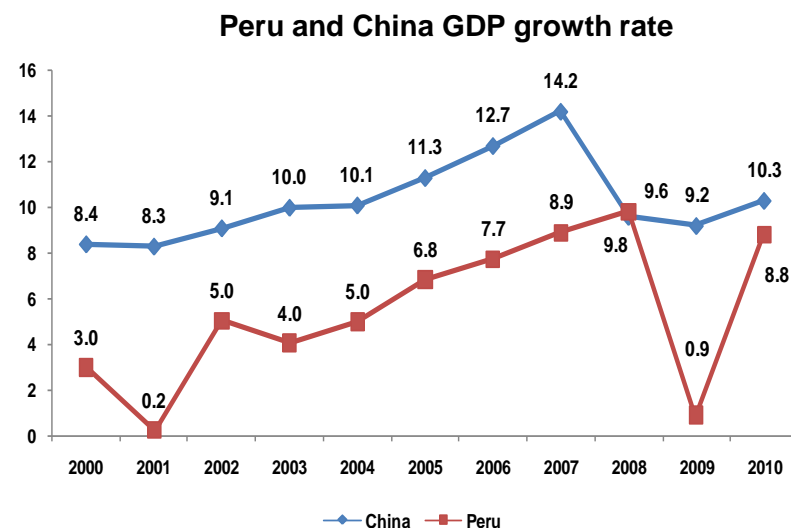
Source: FAO



# Peru and China: main macroeconomic indicators

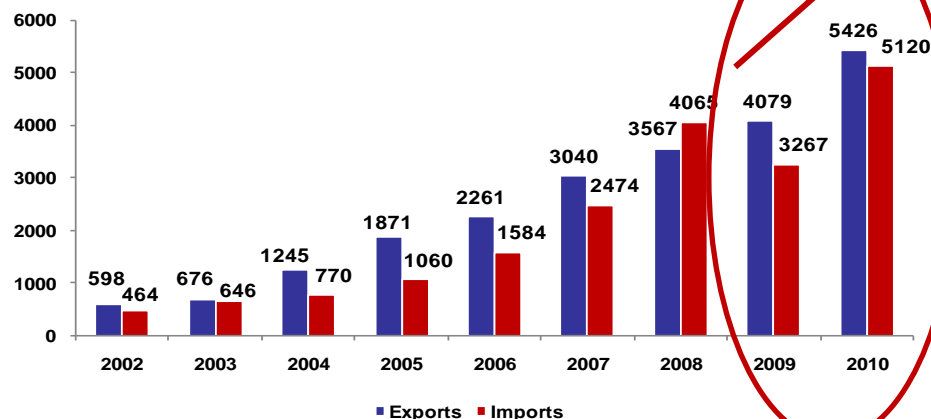
	China	Peru
Population (millions)	1 341.4	29.5
GDP (US\$ millions)	5878 257.0	153 839.0
Per capita GDP (US\$ millions)	4 382.0	5 222.0
Exports of goods and services (% GDP)	29.8	25.7
Imports of good sand services (% GDP)	25.9	22.8
Trade of goods and services (% GDP)	55.7	48.4
FDI: net flow (US\$ millions)	185 081.0	7 328.0

Source: MEF



Source: BCRP, World Bank

Peru-China: bilateral trade 2002 - 2010 (US\$ millions)



Source: MINCETUR

- Peru and China have enjoyed high levels of GDP growth rate during the last decade..
- Trade (exports and imports) between Peru and China reached US\$ 9.5 billions. This year, trade is expected to be 4% or 5%, higher depending on commodities prices.
- Starting this year, China has become Peru's most important trading partner.

# China: main facts

- Largest **producer and consumer** of asparagus in the world.
- Mainly a preserved white asparagus exporter.
- Foreign investment in the sector, especially from Spain.
- Largest supplier to Europe (main white preserved asparagus market).
- Family-farms. Atomized agriculture.
- Production concentrated between **April and June**
- Irregular quality, low diameters producer.
- But still a low-cost producer in a labor-intensive activity.



# Peru: main facts

- World's leading **exporter** of asparagus.
- Peru exports: preserved and fresh, both white and green.
- It's cultivated in the coastal strip (La Libertad, Ancash, Lima, Ica).
- Main players are domestic investors. Little foreign investment in the business.
- Largest supplier to USA (main fresh green asparagus market).
- Vertically integrated plus contract farming. Relatively large firms dominate the cluster.
- Year-round production.
- Higher per Ha yields than China.
- Recognized high quality products.
- Better quality but higher costs than China.

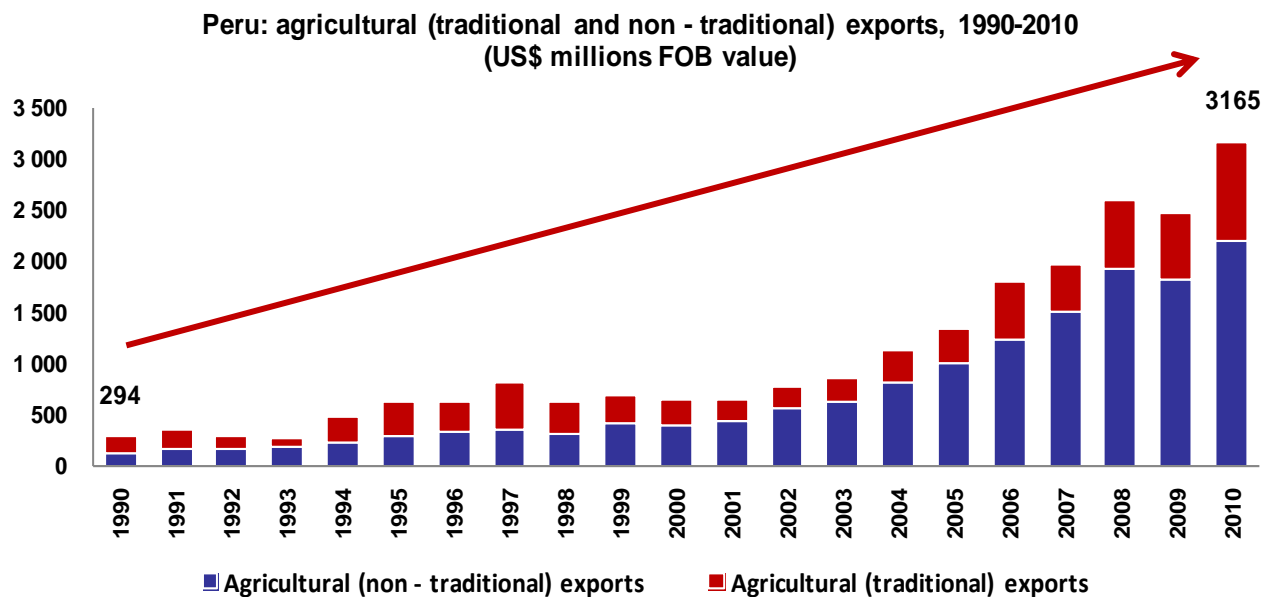


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## II. Asparagus main performance indicators

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# Peru: Evolution of agricultural exports



Source: BCRP

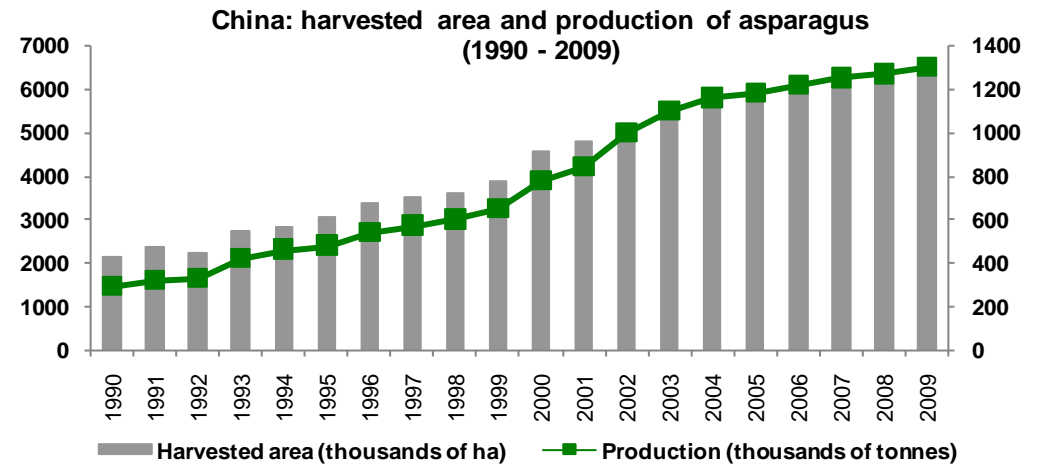
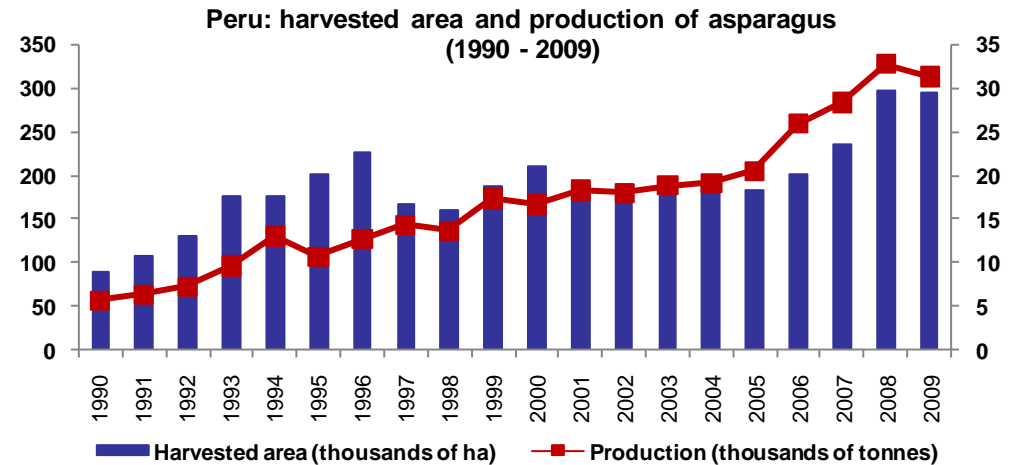


- Peru's total agricultural exports increased from US\$ 294 millions in 1990 to **US\$ 3 165 millions in 2010**.
- It is mainly explained by the growth of **non-traditional exports** (asparagus, grapes, artichokes, etc)



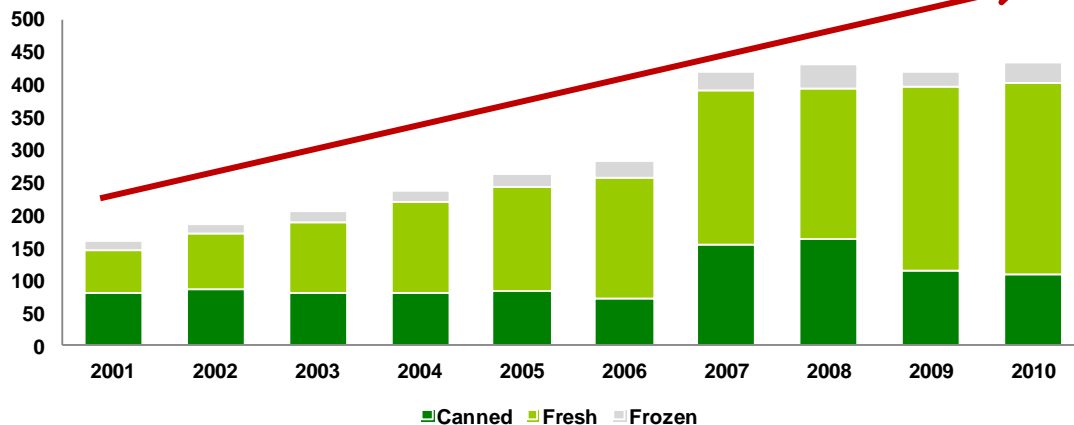
# Asparagus: production and harvested areas (Peru-China)

- In Peru, harvested area of asparagus increased in 40% between 2000 and 2009, leading to a production of 314 000 tonnes.
- In China, harvested area increased 39.3%, between 2000 and 2009. Production of asparagus is, however, 20 times Peruvian production (6.5 million tonnes)



# Peru: Asparagus exports and main destinations

Peru: asparagus exports by type, 2001-2010  
(US\$ millions FOB value)



- Peruvian asparagus exports increased by 172% from 2000 to 2010.
- In 2010, Peru's asparagus exports were US\$ 427 millions (FOB value)

## Market destinations

### Fresh Asparagus

1. U.S.– 69%
2. European Union - 26%  
(Netherlands, Spain, UK)
3. Others - 5%

### Canned Asparagus 1/

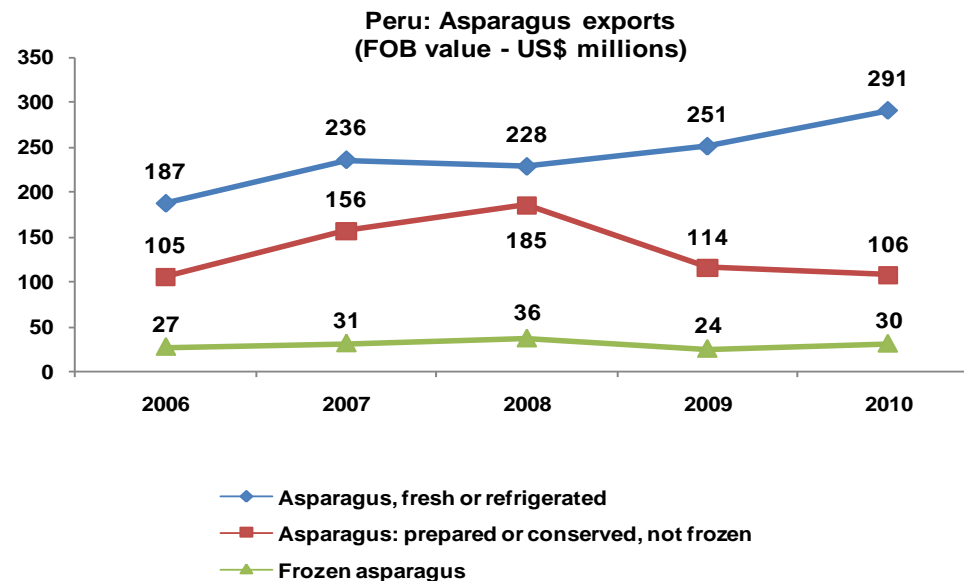
1. European Union– US\$ 76 millions (70%)
2. U.S. - US\$ 24 millions (23%)
3. Others (7%)

### Frozen Asparagus 2/

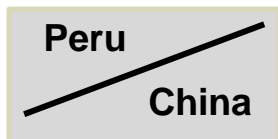
1. U.S.– US\$ 53 millions (53%)
2. European Union. - US\$ 24 millions (35%)
3. Others (12%)

# Asparagus trade by varieties: fresh, canned, frozen

- There has been an increase of fresh and frozen Asparagus between 2006 and 2010.
- In the case of canned Asparagus, there has been a decrease of 42% the last two years.



Source: Peruvian custom - SUNAT



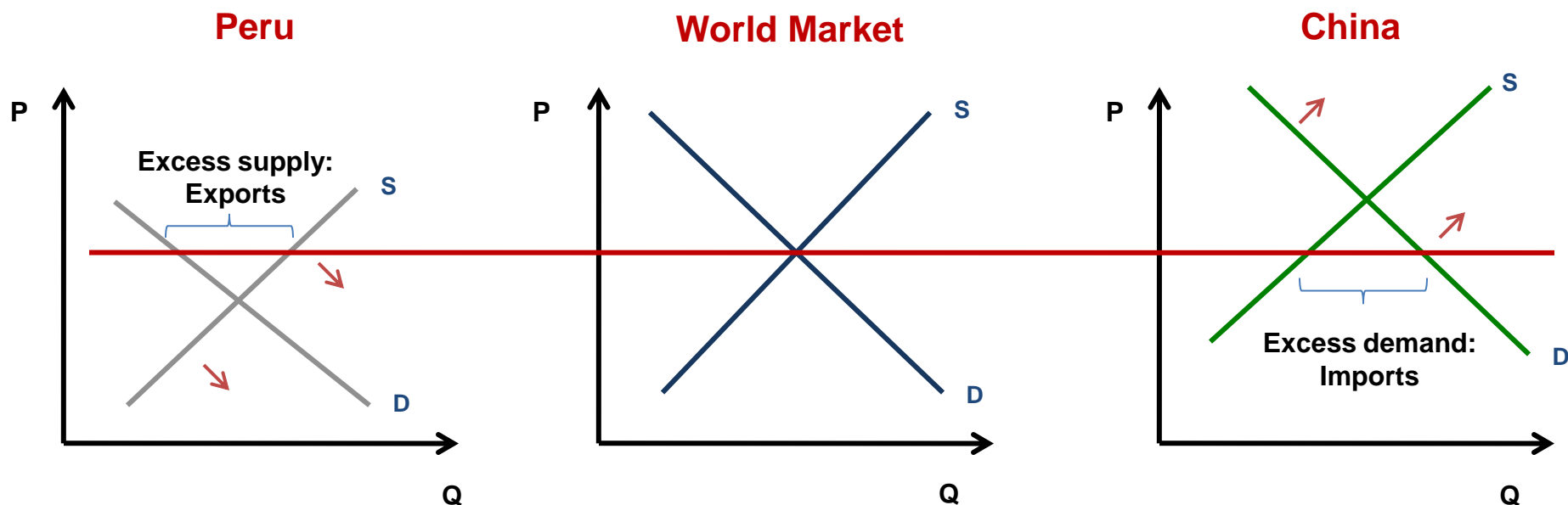
Peru and China: share in imports 2010

	USA	EU
Fresh Asparagus	55.4% / 0.0%	84.45% / 0.02%
Canned Asparagus	97.15% / 2.13%	41.4% / 58.0%
Frozen Asparagus	64.4% / 9.2%	39.3% / 1/37.4%

Source: UN- Comtrade

- Peru is the main source of imports from U.S. in every type of asparagus
- In European Union, there is an important participation of China in canned and frozen asparagus imports.

# Peru and China trade in the Asparagus market



- In the last five years, Peruvian Fresh Asparagus exports to China increased by 250%.
- China has an increasing demand for products aimed to their growing middle class. May become an important export market for Peru, especially in Fresh Asparagus.



# Main competitive advantages for asparagus market in Peru

## Growing seasons

- In Peru, Asparagus production increases from August/September until February/March, when production starts to diminish because of lower temperatures.
- Green Asparagus has two harvests per year. The first one, from January to May/June and the main one from september to December.
- Exports of fresh asparagus depend on the opportunities in the target markets. The rest of production is canned or frozen.
- In China, production increases between April and June.
- In U.S., production increases in April.

Asparagus annual production areas												
	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
<b>Country</b>	<b>North America</b>											
México												
U.S.A												
Canada												
<b>Country</b>	<b>South America</b>											
Argentina												
Chile												
Ecuador												
<b>Peru</b>												
	<b>Regions</b>											
<b>Ancash</b>												
<b>Ica</b>												
<b>La Libertad</b>												
<b>Lima</b>												
<b>Country</b>	<b>Asia</b>											
China												
Thailand												
<b>Country</b>	<b>Europe</b>											
Spain												
France												
Netherlands												
Italy												
Portugal												
Germany												
<b>Country</b>	<b>Oceania</b>											
New Zeland												
Australia												

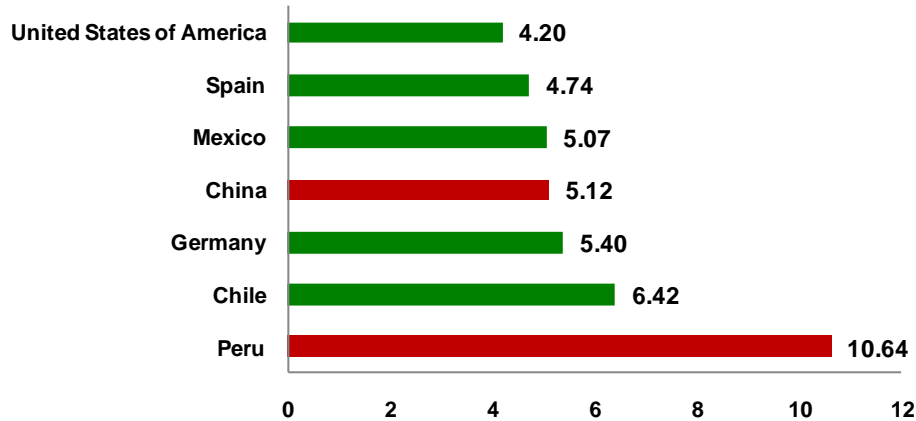
**Opportunity for Peruvian exports**

Source: Technoserve

# Main competitive advantages for asparagus market in Peru

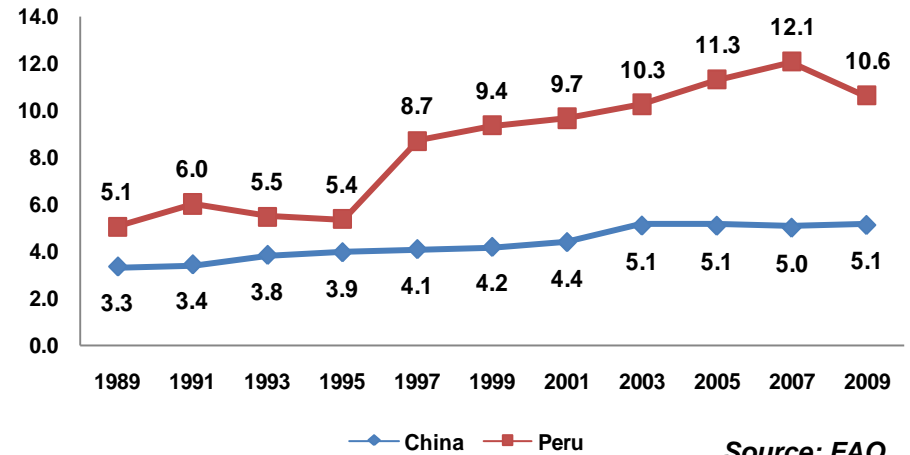
## High yields for Asparagus production

Crop yields for Asparagus production 2009 (tn/ha)



Source: FAO

China and Peru: yields for Asparagus production 1989-2009 (TN/Ha)

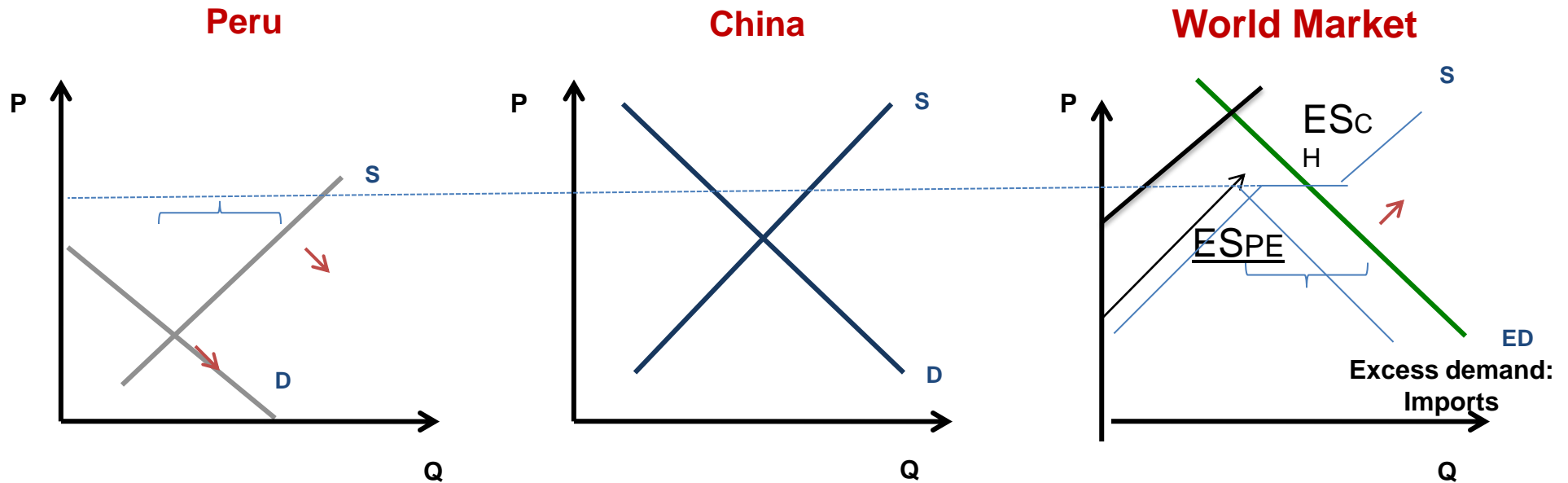


Source: FAO

## Lower labor costs

- As a lower middle-income country with a skewed income distribution, wages are below those of many of its competitors.

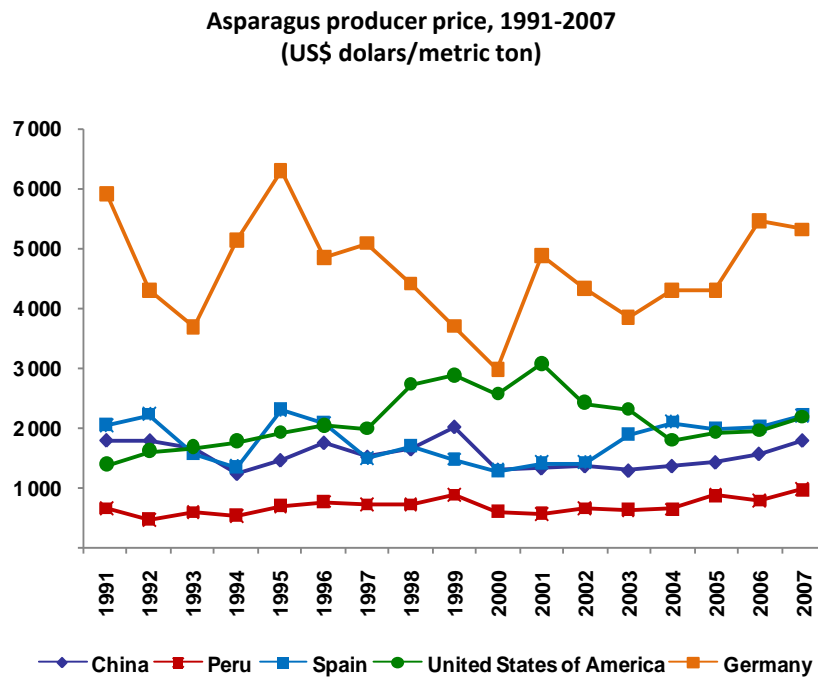
# Peru and China trade in third countries (USA-EU). Processed



- China's excess supply would have to increase significantly to gain more market share and price out Peruvian exports.

# Peru and China: main competitive advantages

## Peru has lower farm prices of Asparagus production than main producers in the world



Source: USDA

## Advantages in Asparagus processing and packing

- This process still needs to be labor-intensive, in order to preserve the product quality.
- Competitive advantage in **E.U. market**: canned Asparagus



## Progress in logistics and quality control

- There has been a technological change in logistics that allows high-quality Fresh Asparagus to be exported using the maritime mode
- *Complementary investments in airports, Cold terminals for air cargo*





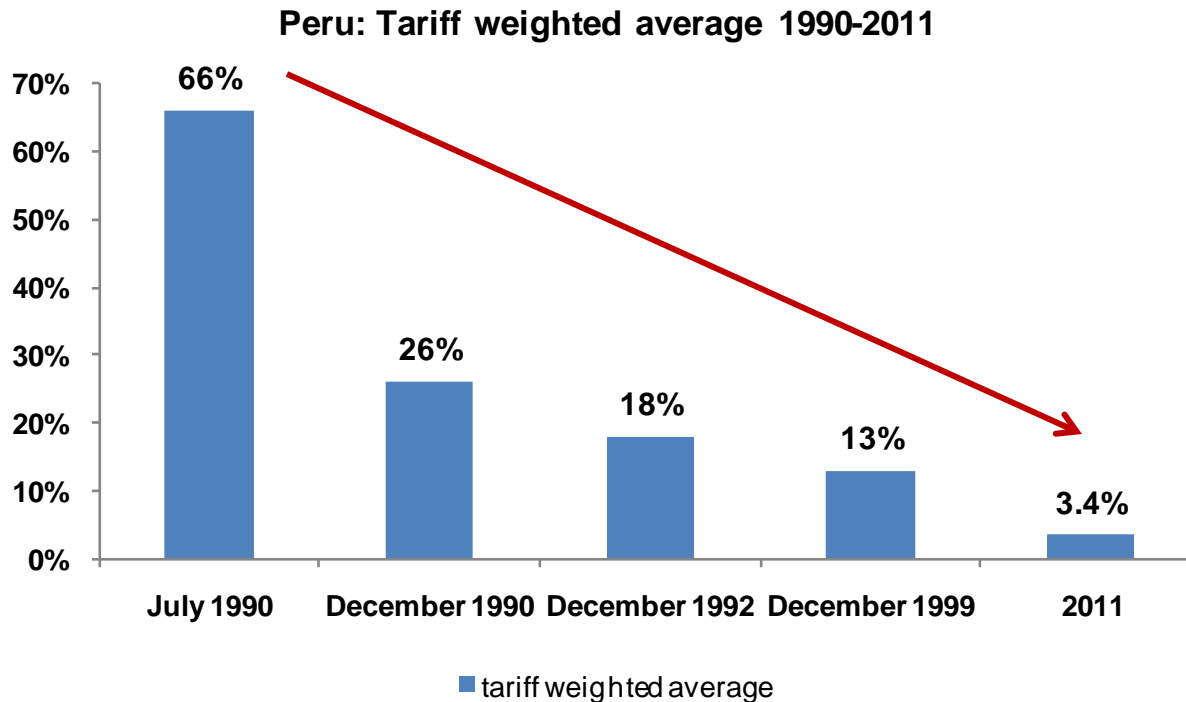
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### III. Peru's domestic and trade policies for promoting agribusiness

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# There has been a significant reduction of tariffs

**Tariffs for most of agricultural products have been reduced.**



- Tariffs have been reduced from 66% in July 1990 to **3.4%** in 2011, as a result of unilateral reductions as well as recent Free Trade Agreements.

Source: *MINCETUR*

# FTA's and effects on Asparagus exports

## China- Peru FTA

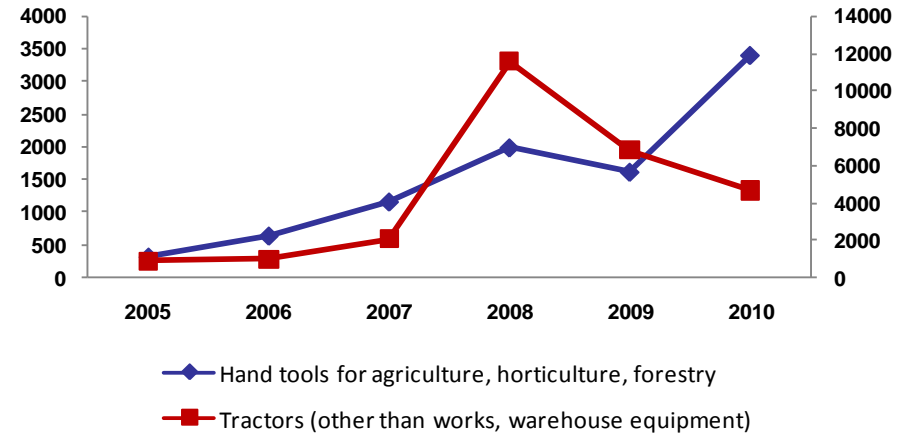


### Tariffs

Fresh: 9% → 0%  
 Canned: 17% → 0%  
 Frozen: 17% → 0%

- The China-Peru Free Trade Agreement, which came into effect on March 2010, granted **zero duty** to Peru's fresh asparagus exports to China.
- The customs authorities may exchange information on the origin of the product and the declared value → Tool to prevent undervaluation of goods imported.
- Fresh Asparagus exports increased by 3% between 2009 and 2010.
- Phytosanitary protocols still need to be worked out.

Peru: imports of capital goods for agriculture, 2005 - 2010 (US\$ thousands)



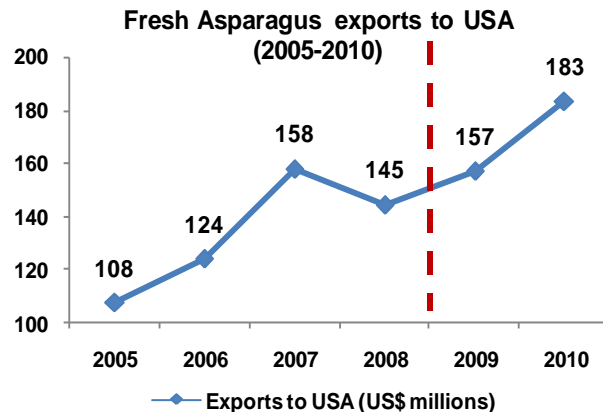
Source: UN Comtrade

## U.S.A. - Peru FTA



### Tariffs

Fresh: 12% → 0%  
 Canned: 25% → 0%  
 Frozen: 20% → 0%



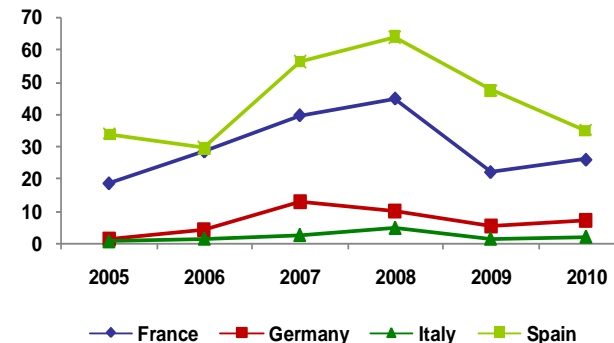
## E.U. - Peru FTA



### Tariffs

Fresh: 10.2% → 0%  
 Canned: 17.6% → 0%  
 Frozen: 14.4% → 0%

Peru: Canned asparagus exports to countries of EU (US\$ millions)



FTA doesn't still come into force

Source: UN Comtrade

# The China-Peru Free Trade Agreement and other FTAs

## China- Peru FTA



March, 1st, 2010

- **Agriculture exports sector grew by 67%**, from 2008 to 2010.
- **173 new exporters.** 70% are micro-enterprises.
- Most of Peruvian imports from China belong to construction materials and capital goods, with growth rates of 54% and 59%, respectively.
- Direct investment has not show up yet in the agricultural sector.
- It might happen in the irrigated land tender processes currently underway (184,000 has).

## U.S.A. – Peru FTA



February 1st, 2009

- 99.9% of total exports in 2009 and 2010 were free of import duties.
- 296 products (US\$396 millions) increased their exports in 100% or more between 2008-2010: fresh grapes (214%), sugar (347%).
- Overall agricultural (traditional) exports increased by 39% with respect of 2008.

## EU – Peru FTA



January 2012

- Immediate and complete reduction of tariffs on 99.3 percent of Peruvian exports to the European Union.
- 95% of agricultural products included.

## Canada- Peru FTA



August 1st, 2009

- 100% of exports are free of import duties since 01.08.2009
- 94% of imports are free of tariffs.

# PPP initiatives

## ***“Frio Aereo” . Cold export terminal***

- **“Frio Aereo”** is an association of producers and exporters of Peruvian capital in the business of exporting fresh vegetables, which include asparagus, flowers, grapes, snow peas, fruits, among others.



## ***IPEH (Peruvian Institute of Asparagus and Vegetables)***

- IPEH, formed in 1998 with the support of Peruvian trade Promotion Agency (PROMPEX). Is a civil non-profit organization formed by producers and exporters of canned, fresh and frozen asparagus, IPEH represents the asparagus industry, participating with 80% of exports of this product.
- Currently, the IPEH provides information services, implementation of GAP, technical assistance, access to markets.

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## IV. Main impacts of the Asparagus cluster on the Peruvian economy

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## a. More jobs and higher wages

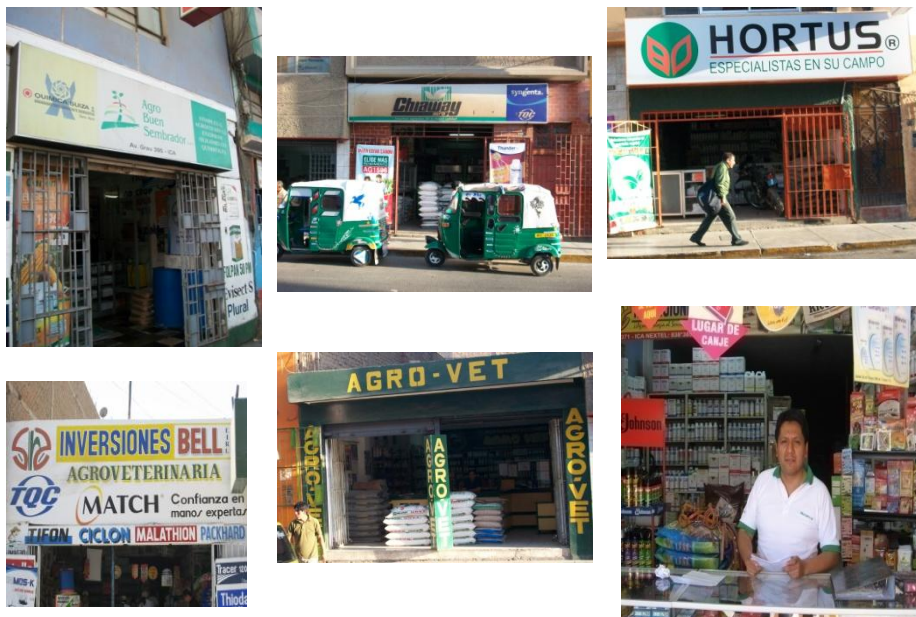
Businesses counted by year of commencement of operations (2008)

Businesses counted by year of commencement of operations: 2008	Peru	Lima	La Libertad	Ica
From 2000-2004	204 554	82 118	11 600	4 749
2005	81 905	31 289	4 899	1 957
2006	115 321	44 008	7 247	2 470
2007	135 674	52 488	8 950	3 173
2008	190 567	70 891	9 067	5 629

Source: SUNAT

- The number of businesses created has increased from 81 905 in 2005 to 190 567 in 2008 in the country. The trend is similar across the the principal regions producers of asparagus.
- Asparagus activity provides the country an estimated **50 000 jobs** decentralized along the Peruvian coast, of which 60% are women.
- Employment rates in Ica and La Libertad are one of the highest in the country. Since 2003, the employment rates have grown 25% in Ica, 12% in Piura, 9% in Chincha, 8% in Pisco and 6% in Trujillo as a result of agro-export activity.

## b. More jobs and higher wages – Higher income



- In recent years, small farmers are using more and more products to nourish the soil and improve yields.
- This has promoted the creation and consolidation of many small businesses that sell these products. The development of these businesses is closely linked to agricultural performance.

- Due to agro-exporting activity, agricultural producers in the asparagus valleys have had the highest income growth rates in Peru.
- The highest income growth rate is reported in southern coast, especially the valley of Ica.

Per capita annual income of agricultural producers, 2007-2008

	2007	2008	Variation (%)
Northern coast	5015.1	6161.7	23%
Central coast	6050.1	8568	42%
Southern coast	7735.9	11937.7	54%

Source: INEI



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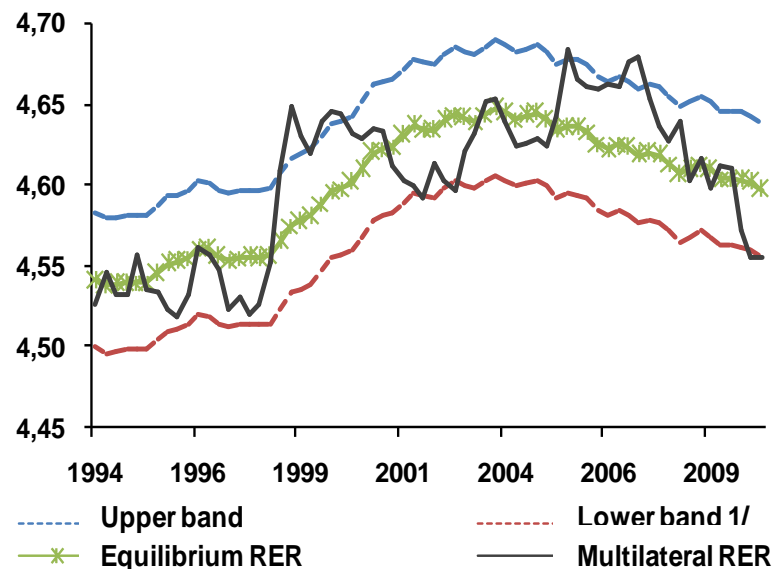
## V. Risks factors that might affect Peru's competitiveness

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# Real exchange rate

- The **Multilateral Real Exchange Rate** is a weighted measure of real bilateral exchange rates with several countries
- The **Equilibrium Real Exchange Rate** is used as a benchmark to identify the existence of a misalignment the multilateral real exchange rate or observed.
- **The downward trend of the Equilibrium RER with the probability of misalignment of the Multilateral RER** shown in the chart may suggest that the general evolution of the exchange rate can possibly be a constraint for the competitiveness of Peruvian agriculture.

Multilateral Real Exchange Rate and Equilibrium Real Exchange Rate 1/



1/ Equilibrium RER less one standard deviation.

Source: BCRP

1/ The equilibrium multilateral real exchange rate (MRER) is estimated by applying BEER methodology (Behavioral Equilibrium Exchange Rate). This methodology seeks to estimate the equilibrium MRER based on its theoretical foundations, instead of the filter approach that estimates the equilibrium MRER as the trend component of MRER observed. To do this this, we used as explanatory variables the ratio of prices between tradable and non tradable products, government expenditure as% of GDP and net foreign liabilities and mid-run and long-run as% of GDP.

# Protectionism

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- According to the USDA, Peruvian asparagus compete with Washington's state canned production (declined 73% by 2008). The three biggest canners in the state closed their operations. Michigan and California have also been affected.
- Consumers in Spain have been complaining that asparagus imported from China and Peru are being sold as made in Navarra - Spain.
- Several antidumping cases have been filed against China in labor-intensive industries.

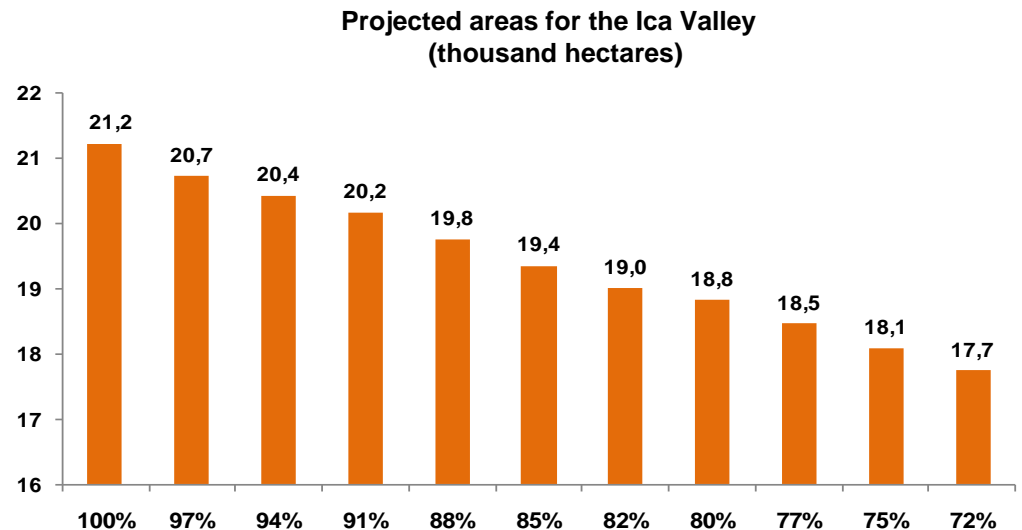
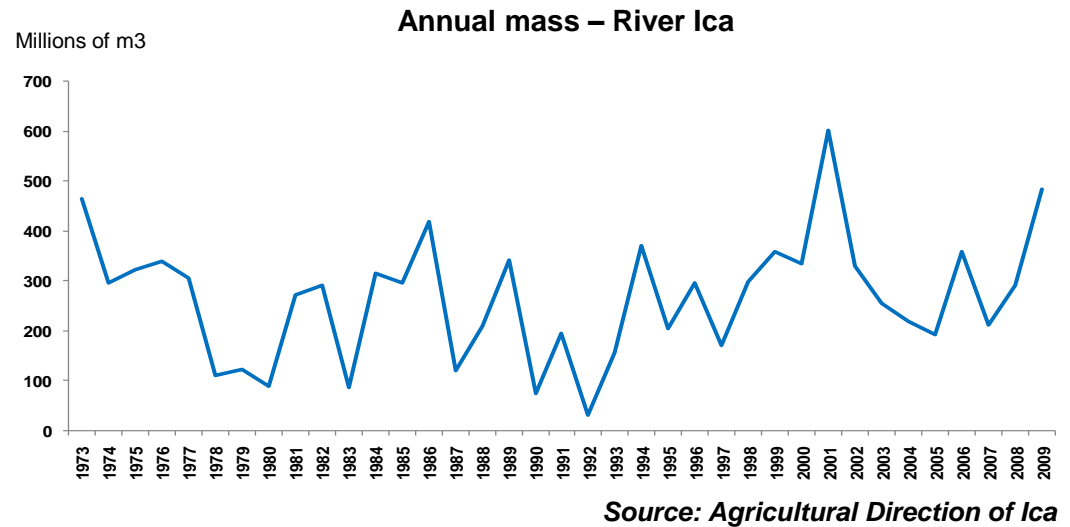
# Labor costs

- Between 2005 and 2008, agriculture wages increased by 31.5 %.
- Workers employed by agribusinesses earn about 30 percent more than those working for agricultural firms that serve the local market.
- Growers in Ica reported that labor costs were about \$8 per worker per day in 2008, higher than in other parts of the country. Ica has reached the point where labor for the exporting agricultural companies is getting scarce, driving wages higher.
- Still, asparagus production continues to be labor intensive and not mechanized.



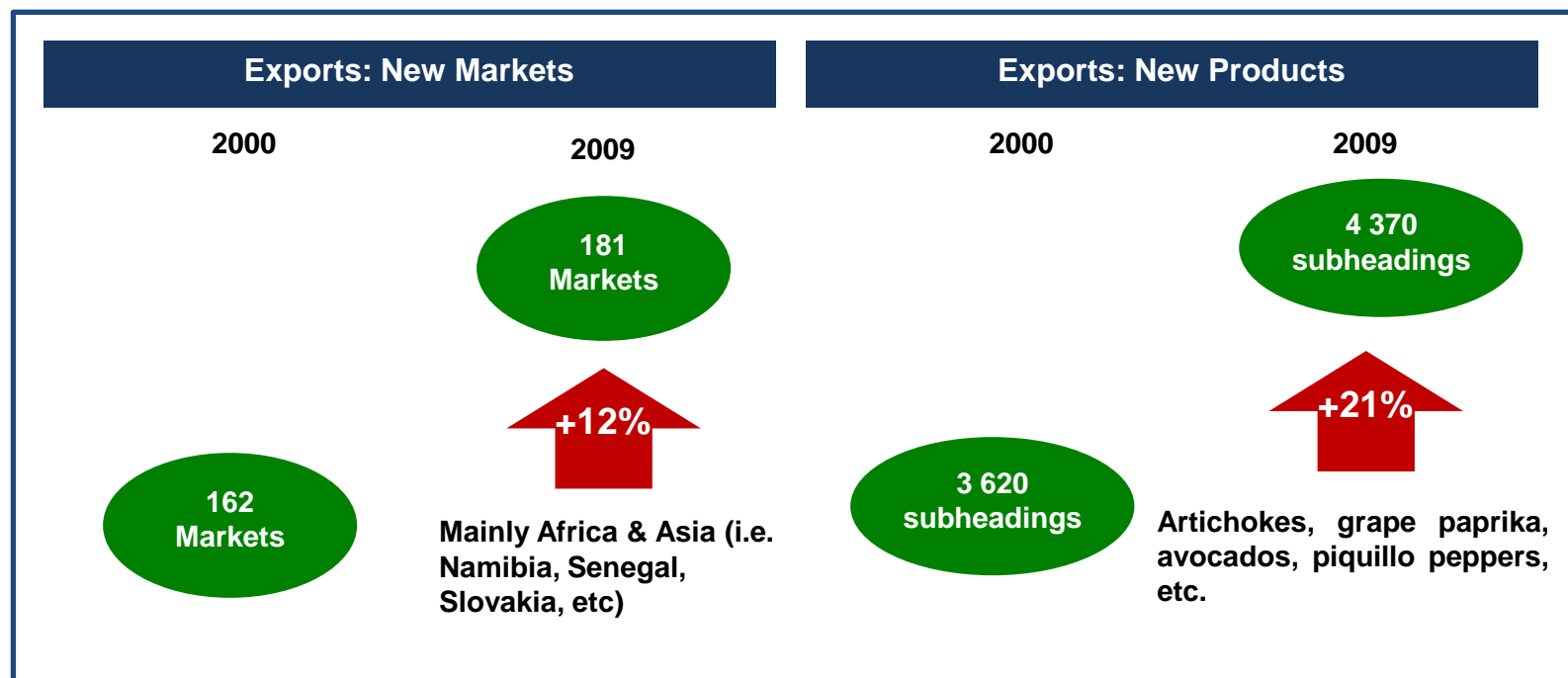
# Over-exploitation of water resources

- The main asparagus-growing valley is basically supplied by groundwater.
- The aquifers are not recharged at the same speed they are being extracted (sign of **overexploitation**).
- Furthermore, coastal valleys suffer from a high level of variability of river flows . This affects local production of main exporting fruits and vegetables.
- “Water – print” concerns in certain markets.



# Reactions to these risks: product diversification

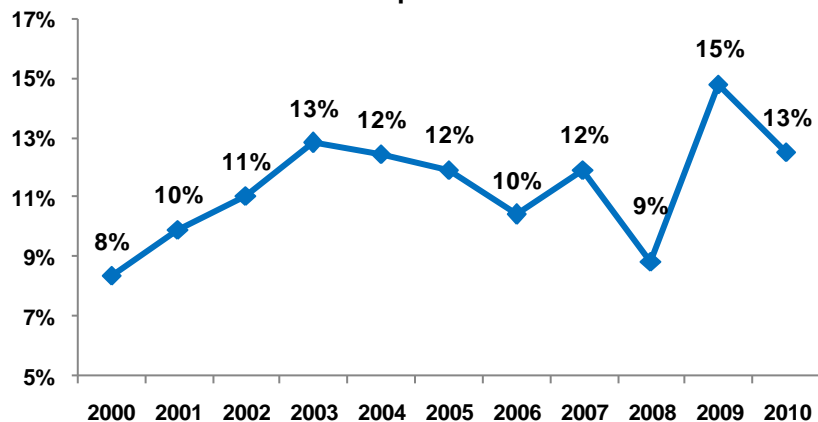
Between 2000 and 2009, there has been a higher number of products with value added and a higher number of market destinations.



- The number of enterprises that export increased from 4 256 (2000) to 7 669 (2009).

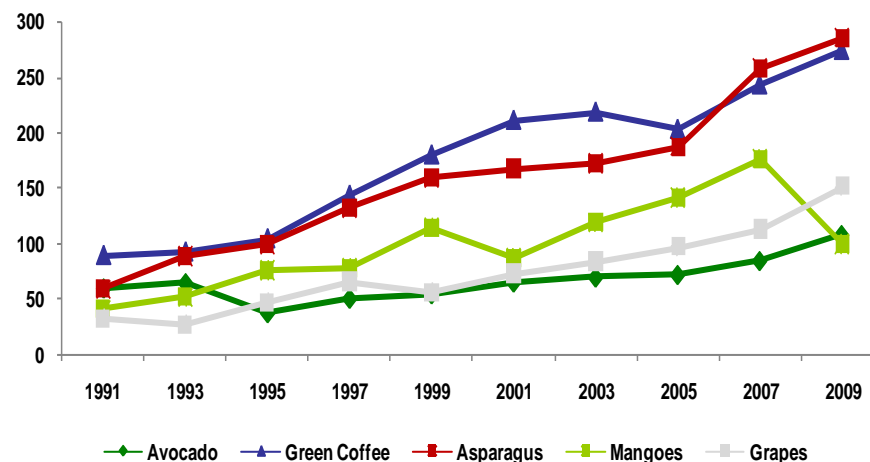
# Reactions to these risks: product diversification

Peru: Share of Asparagus exports in agricultural exports



Source: FAO, BCRP, MINCETUR

Gross production (2004-2006) of agricultural items 1991-2009 (US\$ millions)



- Not only asparagus increased its production the last years, but also other crops like avocado, green coffee, mangoes and grapes. Their share of total exports also increased.



# Conclusions

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- China may become an important export market for Peru, especially for fresh asparagus.
- Chinese farm machinery and agricultural inputs may also increase Peruvian competitiveness.
- China and Peru will be important players in the global markets. Peru would likely keep its advantages in the fresh market. China could increase its share in the processed market in the EU, if the market premium for quality starts disappearing.
- Peru's needs to address domestic issues to keep its competitiveness in the asparagus value chain, mainly regarding water resources management, and phytosanitary issues.. A low-risk external factor related to trade might be ill-grounded antidumping cases against both Chinese and Peruvian imports in either the US or EU markets.
- Agribusiness are investing relatively more in alternative high-value crops such as grapes and avocados.