

Carlo Pietrobelli y Fernanda Puppato

## Paltec – The avocado cluster Competitiveness Reinforcement Initiatives

### Introduction

This paper aims at providing an analysis as well as an evaluation of the Paltec program promoted by the **Regional Development Agency of Valparaiso (RDAV)** with the close support of **Competitiveness**.

The challenges of this specific **Competitive Reinforcement Initiative (CRI)** are very ambitious: on the one hand, it reinforces an agricultural sector (avocado) that has been threatened by a number of factors; on the other hand, it helps strengthening and positioning the newly created Regional Development Agency of Valparaiso (RDAV). Table 1 below, summarizes the main characteristics of the Paltec program.

Table 1  
The program in brief

<b>Name and type of the program</b>	PALTEC (“Palta” Avocado + “Technology” ready to eat), cluster program
<b>Country/Region</b>	Chile, Valparaiso
<b>Geographical coverage</b>	Regional
<b>Sector</b>	Agricultural sector – avocado
<b>Executing agency</b>	Regional Development Agency of Valparaiso (RDAV)
<b>Main goal of the program</b>	To improve the competitiveness of the avocado-related companies in the Valparaiso region
<b>Policy priorities</b>	Strengthening and help positioning the RDAV through targeted measures embedding, among others, methodology transfer and capacity building.
<b>Identification of beneficiaries</b>	The programme is open to everyone who is interested in following the strategy

This case was prepared by Prof. Carlo Pietrobelli y Fernanda Puppato on 2010 based on a real experience in the Region of Valparaiso (Chile), as the basis for class discussion rather than to illustrate the effective or ineffective handling of an administrative situation. Some situations, characters and companies have been disguised to preserve confidentiality.

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<b>Duration</b>	From 2008 (design phase) to 2010 (implementation phase)
<b>Source of financing</b>	<p><b>Design phase:</b> both public (Chilean Government and the Inter-American Development Bank – 50% and 50% respectively) and private.</p> <p><b>Implementation phase:</b> funding derives from a number of other granting institutions (a 20% takedown from the private sector and the rest from public institutions).</p>
<b>Overall budget</b>	Implementation phase: estimated expenditure for the first year 1,588,720 USD

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Source: own elaboration on the basis of PMC Paltec, Producto 2, Competitiveness, 2008

There is rich empirical evidence that shows how firms located in clusters may find it easier to overcome the constraints that slow down enterprise development, such as asymmetric information, no access to external services and lack of specialized skills, among others. Indeed, Porter's cluster definition (1998) emphasizes the geographic proximity among a group of interconnected companies and associated institutions in a particular field, linked by commodities and complementarities. This definition captures all the important linkages and spillovers of know-how and technology between companies, which are fundamental to productivity, competition and innovation. Paltec makes explicit reference to this approach and embodies all the features and challenges that a cluster program should have.

This note is structured as follows:

- First, it describes the program's methodology with specific focus on the role played by the participating institutions;
- Second, it examines the context within the Valparaiso region, and the avocado industry before the program's implementation;
- Third, it illustrates the strategic analysis behind the sector selection according to the strategy adopted;
- Fourth, it relates the strategic segments in the fresh avocado business that can be differentiated depending on the place (in or out of the house) and moment of consumption (ripe or unripe). The four areas of improvement consistent with the strategy are explained; and
- Lastly, it reports the results obtained until today, as well as the lessons learned, both during the design and implementation phases of the program.

## Program methodology and sector selection process

Competitive Reinforcement Initiatives (CRIs) are based on cluster programs, deriving from the combined coordination of specific instruments, with new local level competences. The final objective of such initiatives is not to build clusters, but rather to enhance enterprises competitiveness.

This goal is framed in the context of a historical process started in 2006, when the newly-elected Chilean President Michelle Bachelet, initiated a deep institutional reform, regarding the regional policy framework. The decision was to move towards a more decentralized development approach, called Local Economic Development Strategy. This process initiated the decentralization of the executive power, through the establishment of Regional Development Agencies (RDAs) in each region. Together with RDAs, Strategic Committees<sup>1</sup> were designated for each region: their combined effort is to define the directions to be followed by the methodology included in the Regional Agenda.

RDAs respond to the need of improving Chile's economic competitiveness, because the existing policy instruments were not able to address regional needs in an effective way. RDAs play a central role at the regional level as they adjust national interventions to the specificities of each area. The definition of a long term strategic vision, which guides public and private promotion and innovation, as well as, progressively, the allocation of funds, falls under the responsibility of the Regions –their authorities, local companies, universities, research institutions and community-. Within this new framework, the Chilean Government recognized the importance of defining **clusters** in terms of new markets and knowledge relationships, and their need for sectors to thrive. Under this perspective, it is crucial to reinforce clusters in traditional sectors, as these may provide the necessary dynamism to boost economic development (see Table 2).

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<sup>1</sup> Strategic Committees are commonly composed of: the mayor, CORFO's regional director, and other public and private representatives of the region. There is a Strategic Committee for each region. This Committee is in charge of: defining both the main priorities of each RDA and its technical and administrative structure (i.e. budget definition, necessary agreement to comply with the mission and the Agency objectives, etc.), and selecting the clusters to be addressed in the Regional Agenda.

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Table 2. RDAs strategy  
Developing local capabilities to:

- Boost the productivity of regional micro, small and medium-sized enterprises and improve equity and social inclusion;
- Strengthen regional capacity to define regional development agendas;
- Coordinate and link up local companies and public support targeted to private sector development;
- Deal with central, national economic agencies;
- Foster local clusters and coordination within the private sector;

being their main objective to:

“promote sustainable regional economic development, and improve the competitive position of the 15 Chilean regions”

Source: own elaboration on the basis of PMC Paltec, Producto 2, Competitiveness, 2008

There are 45 programs currently financed by the Chilean Government (via the Chilean Economic Development Agency -CORFO, Corporación de Fomento de la Producción) and the Inter-American Development Bank (IADB) supported by international experts<sup>2</sup>. In 2008, Competitiveness obtained a consulting contract to work with seven of fifteen different RDAs located in the north of Chile, in order to develop three CRIs in each of these regions. In such way, Competitiveness supports this decentralization process by transferring its proprietary methodology –resulted from a successful completion of more than 150 cluster projects- to the new teams in the RDAs.

The sector selection process was driven at the local level by the RDAV that led a negotiation approach with the representatives from the private and public sectors. Their outcome was the identification of the targeted areas in the Regional Agenda.

The agenda of Valparaiso prioritized the following sectors: agriculture; tourism; higher education; and logistics. The one on which this case-study focuses concerns the agricultural sector, specifically the avocado industry, and it is called **Paltec**, and adopts a long term approach - approximately 15 years – with the aim to renew the productive sector in which local producers are operating.

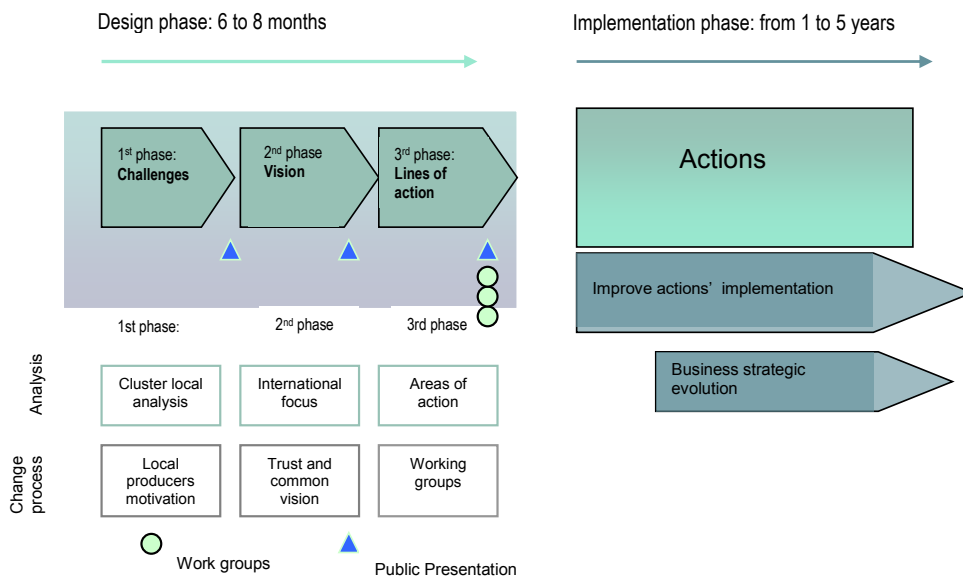
Within this newly created framework, CRIs –and therefore Paltec- aim, on the one hand, at refining long term regional strategies<sup>3</sup> and, on the other hand, to fill the lack of incentives and capabilities by identifying the more attractive business areas

<sup>2</sup> The total budget amounts to US\$ 40.000.000 and was obtained from the loan contract 1829/OC-CH signed by the Chilean Government and the IADB, in February 2007.

<sup>3</sup> The regional strategies per se are broader and include horizontal measures dealing with mayor problems of water and energy scarcity, among the others.

and then working together with those actors operating such segments. Such public-private strategic initiatives help supporting those issues that enterprises are not able to face alone. Indeed, rarely do individual companies by themselves undertake the full range of activities necessary to bring a product from a conception to market. Specifically, CRIs originates from a multi-phase process that is illustrated in graph n. 1.

Graph 1 – CRI phases



Source: Competitiveness

**Identification of the challenges:** in the first phase, RDAs' specialized team focused to understand the cluster, with the assistance of a Competitiveness "tutor", so not only analyze all the previous studies but also interview the key actors in the avocado industry individually. Within this timeframe, RDA was presented as a new type of public-private institution, with a well-structured working plan. RDA's work – always supported by Competitiveness - also focused on understanding international market trends, final markets, and the strategic options available for the region. Therefore, this methodology combines a strategic analysis agreement with a variety of instruments targeted to foster innovation and change within the productive system. RDA and Competitiveness support is extremely significant during this initial phase because enterprises cannot carry out this process alone, and find it hard to visualize new business opportunities, as they are often locked in old practices.

**Strategic options:** through the engagement achieved during the first interview, the RDA reached different levels of dialogue and trust among local companies represented by project agents who make up strategic thinking groups. These groups showed their commitment by supporting RDA's initiative and taking part in the process. The outcome of this phase is a Strategic Option for the cluster with the identification of the Improvement Areas – with assistance of Competitiveness through its technical evaluation of the priorities set by the strategic analysis. This

document is also examined by the Strategic Committee composed by visionary companies of the cluster.

In this phase Competitiveness carries out a strategic analysis that seeks to identify the strategic areas and the specific actions required to improve the market share of the newly selected business.

**Action Lines:** it is within this phase, that the so called “areas of action” are defined by working groups (made of representative from the private and public sector) with the specific aim of reducing the competitiveness gap affecting the chosen sector.

### **Project context: Valparaiso and the avocado industry**

Paltec project adopts a long term approach (15 years) to modernize the local productive sector. Why should the RDAV focus on the avocado sector? Valparaiso is the leading fruit exporter in the southern Hemisphere and fourth worldwide.

The region, with its 4,000 producers and 60% of national production and export of avocado, is the world’s second exporter of avocado after Mexico.<sup>4</sup> Avocado exports recorded an annual average growth of 17% over the last 10 years. Mexico and Peru are the two main competitors. The first, is the world’s number one producer and the main exporter to United States, given that since 2007 it was allowed to export avocados to all the states in the US. The second, by exporting avocado to the EU, competes with Chile in the same season, but with lower production costs.

Table 3 Avocados 's production in Valparaiso
Valparaiso Region is the world's second exporter of avocado
Production 22.000 hectares 6.500 direct employment (approx.) 60% of national avocado production in 2007
National exports 2007/2008 75% of production Ton 146.396,5 US\$186.933,7 million 17% annual increase in 9 years

Source: PMC Paltec Región de Valparaíso, Agencia Regional de Desarrollo Productivo de Valparaíso

However, Peru does not have access to sell in the USA yet, but this should be obtained by 2010. Within this tough competition, Chile’s Hass Avocado Committee is making strong efforts in promoting the consumption of avocados in

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<sup>4</sup> Export data 2006, FAO.

Europe.5 Avocado producers are located in different areas of the Region: La Cruz, Quillota, La Ligua, Cabildo, Petorca (see map below)

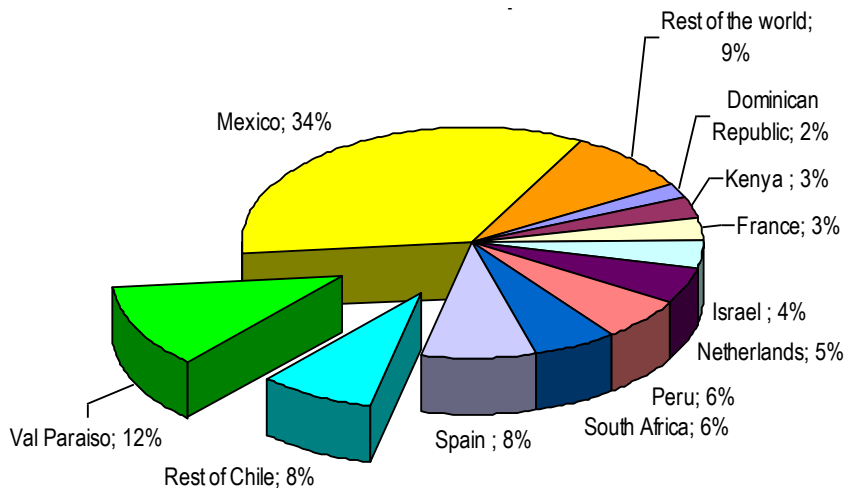
Graph 2 – Valparaíso Region



Source: Own elaboration on the basis of PMC Paltec Región de Valparaíso, Agencia Regional de Desarrollo Productivo de Valparaíso

Graph N. 3 shows the avocado world export shares, where Chile plays a leading role in the market (Valparaíso with 12% and rest of Chile with 8% of the world share respectively).

Graph 3 – World Avocado Exports - 2006



Source: PMC Paltec, Región de Valparaíso. Agencia Regional de Desarrollo Productivo de Valparaíso

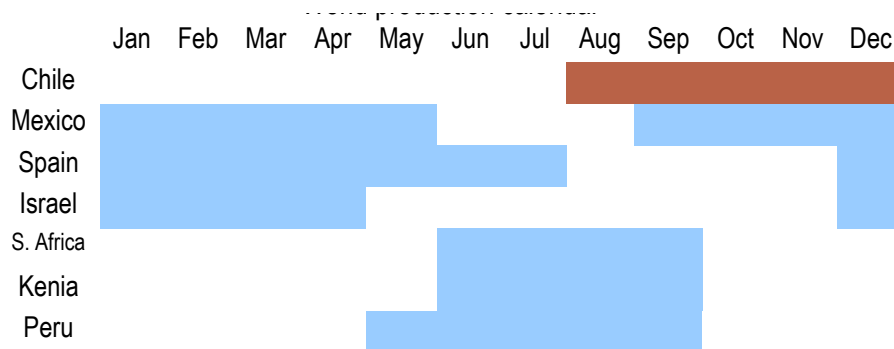
From an analysis of avocado’s production process, the key success factors are the following:

<sup>5</sup> The Hass Avocado Committee is a no profit organization in charge of the product promotion, founded in 1991 by a group of local producers together with the main avocado’s exporters. The aim of this association is to expand and discover new markets, foster research and development in order to strengthen the sector, carry out quality control practices, etc. Nowadays the board of directors is led by the main exporters.



- The level of productivity per hectare: according to FAO, Mexico displays the highest productivity per hectare in Latin America (10,7 ton/he), followed by Peru (8,8 ton/he), and Chile (6,1 ton/he);
- Varieties: there are two main types of avocado. The Fuerte variety is preferred by Europeans because of its green skin. The Hass avocado, that is produced in Valparaiso, has black skin which is generally associated with an overripe fruit; and
- Seasonality period of the product compared to other countries (see table 4 below).

Table 4 – World production calendar



The whole business is controlled by intermediaries (exporters), which leaves producers in a passive position as they often have no contact at all with final consumers.<sup>6</sup> The analysis of Porter’s Diamond presented in graph N. 3, clearly demonstrates that the avocado business is managed by few exporters involved in the avocado ingredient commercialization, for which it is considered simply as an ingredient (in this case the avocado is sold as a mere commodity to the consumer that, especially in Europe, does not know the right moment for its use, nor how it can be consumed).

This ingredient business segment is characterized by many shortcomings, mainly related to the high heterogeneity of fruits due to the low-performing production process and the insufficient quality control system implemented by the Hass Avocado Committee which, regrettably, is not neutral, as it is both a judge and an interested party in the business.<sup>7</sup> Indeed, producers do not have a stable relationship with exporters, and the latter are more concerned of the shipping schedule than of the quality and the ripening stage of the exported products.

<sup>6</sup> There are four main exporters that dominate the market, namely: Agricom, Cabilfrut, Propal and Santa Cruz. Source: Competitiveness.

<sup>7</sup> In particular, 30% of the fruit is exported without certification, while the other 70% is tested by the Hass Avocado Committee that only analyzes the fruit but cannot stop an exporter from selling it.

Graph 4 – CRI PALTEC: Diamond diagnostic

**Business context:**

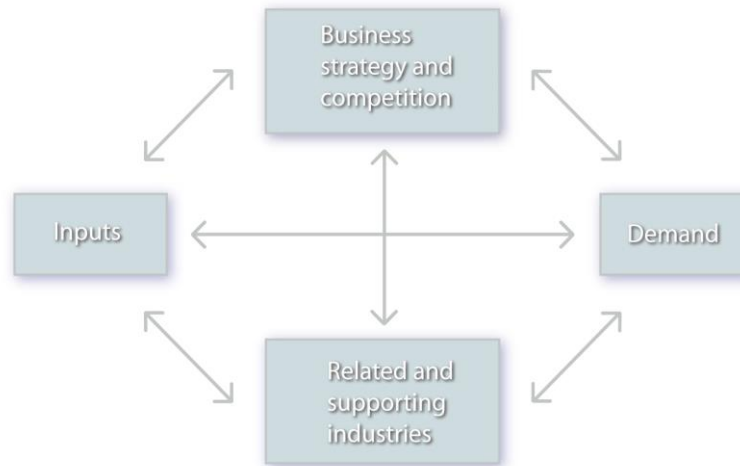
- Enterprises are facing adverse climate conditions and low levels of profitability due to an increase in the cost of production costs and appreciation of Chilean peso (as well as a depreciation of the US dollar);
- Polarized system: unequal profit distribution between a large group of small and few big export producers –that earn the greatest part of the profits-;
- Enterprises competing in the business in terms of volumes produced, while there are competitors that boost greater production per hectare (Mexico) or lower costs of production (Peru and South Africa);
- The international fruit market context requires product differentiation;
- Producer associations do not intervene unless they are guided by intermediaries.

**Labour force:**

- Low qualification, with low output per hectare;
- Low precision/ performance in the production process

**Water and energy:**

- insufficient water in t
- e irrigation system



**Demand**

- Producers' awareness of the demand is very low. They sell their products to intermediaries who pay them within 60/90 days.

**Supporting industries:**

- Research institutions are focusing their studies on processed avocado for alternative applications (oil, cosmetics, etc.) which is actually the leading business for Mexico. The market in this business is already saturated.
- Scarce use of technology during the pre-harvest, harvest and post-harvest processes.

Source: own elaboration on the basis of PMC Paltec, Producto 2, Competitiveness, 2008

## Strategic analysis behind the sector selection according to the adopted strategy

Paltec aims at exploiting the opportunities offered by the growth of the world fresh fruit consumption,<sup>8</sup> through a product that is sold at the right moment of consumption. Indeed, in Europe avocados are perceived as exotic fruits and the consumer is usually not able to understand when the product is ripe enough to be eaten. Improving consumers' awareness would allow moving away from selling avocado as a mere commodity product (ingredient avocado) to the development of a whole new market for avocado brought fresh and ripe to the consumer, at the right moment to be eaten. In this case, the product, called *ready to eat* avocado, is commercialized by units instead of bulk. This would offer a great chance to add further value to a traditional product.

Table 5 Paltec aims at achieving two different goals at two different levels

**Regional-business level, specific of this CRI:** reinforcing a key industry, that one of avocado, by supporting local actors in their capacity to adopt a long term approach to renew the sector in which they are operating;

**Regional institutional level, targeted to all of the RDAs:** strengthening and helping position the role of the Regional Development Agency of Valparaíso (RDAV).

Moreover, the *ready to eat* segment is supposed to provide better margins. The value chain requires a more complex process as it needs a ripening point at destination (see graph n.4), but at the same time the product is worth more and this generates larger profit margins.<sup>9</sup> The fruit requires a combination of technology and logistics during both the cultivation and the ripening phases. Thanks to this brand-new methodology, local producers may play a more prominent role, as well as establish a more direct contact with intermediaries, as the burden of the proof of the fruit's quality is with them.

The strategic vision that was agreed with the local producers during the design phase of the CRI can be summarized in "becoming a leader in high quality, fresh, healthy *ready to eat* avocado". In fact, the main goal of Paltec is:

- In the short run, to increase significantly the price per kg up to 30% (within two years), compared to the price of the ingredient avocado;
- In the long run, to increase up to 40% the income per hectare for Paltec producers, compared to those who did not participate in the program (within 6 years).

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<sup>8</sup> According to Nature's Pride President (a company from Netherlands specialized in advance logistics and efficient delivery of *ready to eat* fruit) the *ready to eat* segment covers 20% of the products offered in the supermarkets and this segment enjoys an annual growth rate of 30%. This view was also supported by Wageningen University, that is specialized in food ripening and distribution.

<sup>9</sup> Local producers obtain margins that are 50% higher than those with ingredient avocado (PMC de la Región de Valparaíso PALTEC).

## Trends in fruit consumption

Different phenomena affect avocado's consumption. These can be summarized as follows:

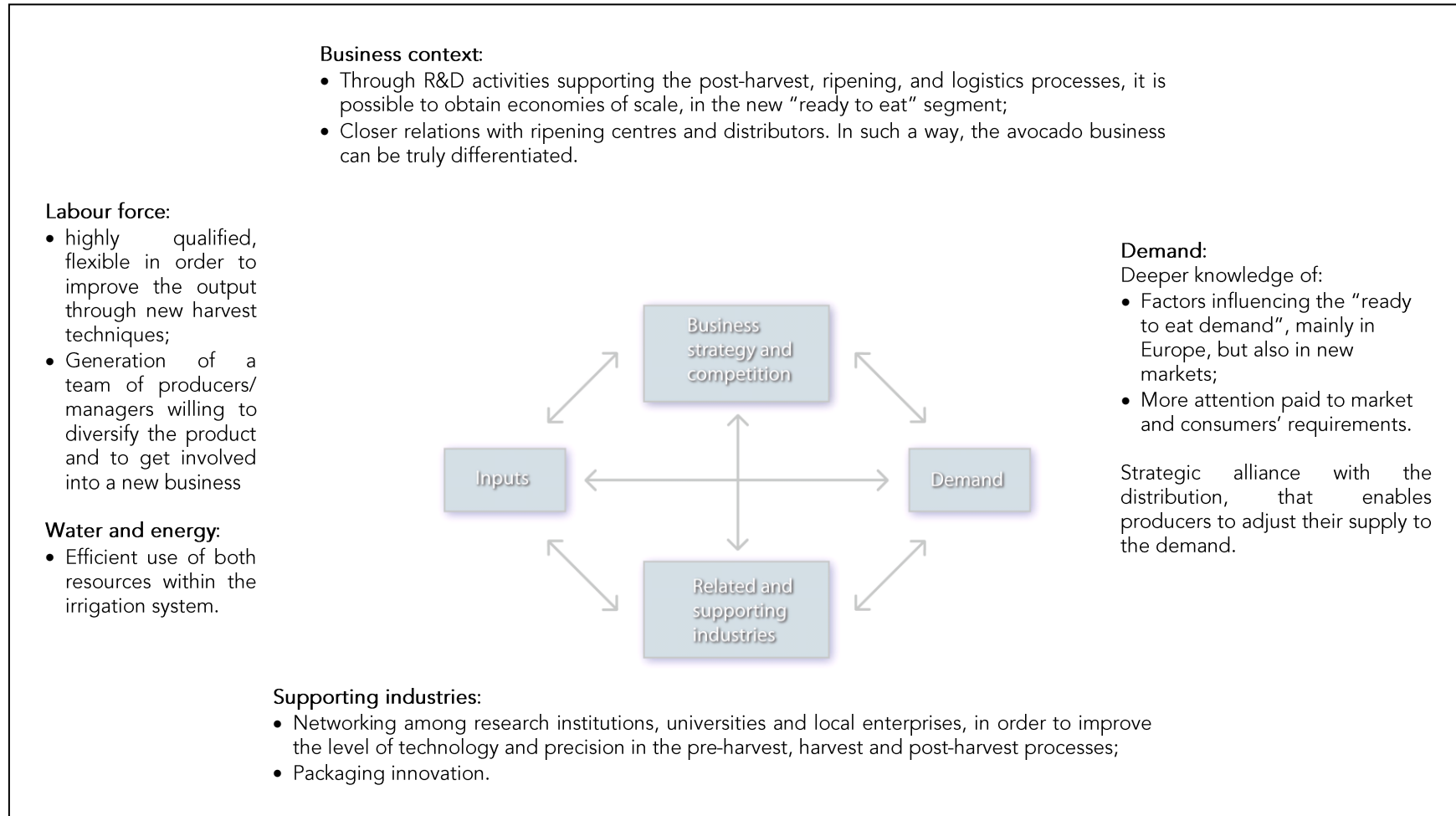
- Growth of the number of new consumers;
- The consumer requires healthy food: this mirrors the growing need of conducting a healthier way of living. There are also growing worries about the traceability of the product. A direct contact with the producer is conceived as fundamental when looking for healthy food. In particular, avocado contains a specific substance/fat that reduces the risk of getting cardiac diseases. Many European countries (e.g. Denmark, Finland, and Spain) are carrying out various campaigns at a governmental level, in order to fight these diseases that affect a large part of the population. The introduction in the market of a healthy food such as the avocado takes advantage of these campaigns in order to enter effectively in the European market and meet consumers' needs.
- Consumers require convenience in the consumption of the product: they look for *ready to eat* products, with suitable packaging, format and way of buying.
- Moreover, consumers are looking for caprices, entailed in exotic fruit, which enable them to live "new experiences", during the whole year.<sup>10</sup>

A reference trip was carried out in order to confirm the main trends and hypotheses identified in the *ready to eat* segment in Europe, as well as the possibility of utilizing European ripening centres. The Netherlands stand out because of its excellence in logistics and its leadership in related R&D: its food industry invests 2 percent of its turnover in applied research, making it the country with the largest per capita investment in the food industry. The trip confirmed the opportunity for Chile to invest in the *ready to eat* segment that in Europe offers higher margins as high as 30% compared to the fresh avocado and that is growing at a 40% annual rate. IN contrast, in processed avocados, either as food (frozen) or for other applications such as cosmetics or oils, the Mexicans are actually more efficient than the Chileans.

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<sup>10</sup> Paltec, Producto 2, Competitiveness, 2008.

Graph 5 – CRI PALTEC: ideal diamond – goals

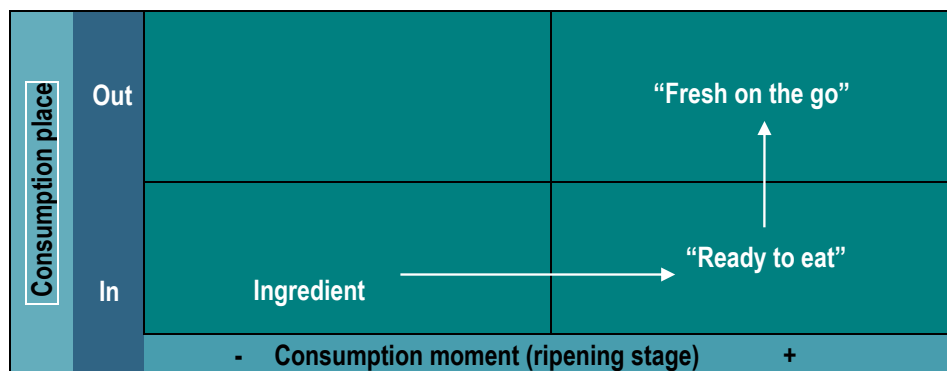


Source: own elaboration on the base of PMC Paltec, Producto 2, Competitiveness, 2008

## Strategic segments related to the different stages in which avocado is going to be sold

After meeting experts in post harvest, logistics, ripening centres and distributors in the Netherlands, the strategic segments in the fresh avocado business can be differentiated depending on the place (in or out of the consumer's house) and moment of consumption (ripe or unripe).

Graph 6 – Strategic segments



Source: PMC Paltec Región de Valparaíso, Agencia Regional de Desarrollo Productivo

These strategic businesses are namely:

**The ingredient segment** is characterized by a low level of control over the ripening process, and it is usually eaten at home. In the ingredient segment the fruit is sold to a consumer that does not know the right time of consumption as he has no control over the ripening process. Similarly, the consumer does not know how the avocado can be consumed. The fruit is considered simply as an ingredient. The region could continue with this strategy, but this is only possible through a more efficient logistics and production system. As mentioned above, Chile is competing with Peru and Mexico under different conditions within this segment. On the one hand, Mexico is the world's largest producer and its exports to Europe were irregular because its humid climate brought technical difficulties in transporting the fruit in good conditions. Thus, Mexico export destinations are mainly concentrated in the USA. On the other hand, Peru has recently entered the European market competing in the same season but with lower production costs. However, Peru still has not reached the sanitary and quality conditions that instead characterize the Chilean market.

**The ready to eat segment.** The *ready to eat* avocado is eaten at home but it is brought to the consumer at the exact time of ripening. In this segment, the fruit is sold at the right moment of consumption. The value chain is more articulated as it needs ripening at point of destination. The fruit needs to be of a better quality and it requires more technology to control ripening. Given all these needs, not all regions are able to offer such a specific and high quality product. Chile can compete thanks to its large experience in the avocado business and to its good

reputation. This new segment is characterized by the ability of providing a high quality product in small volumes.

Therefore, producers assume a more prominent role, as intermediaries need to keep a lasting relationship with them. This occurs because intermediaries need to ensure the product quality, otherwise the reputation of the *ready to eat* segment would be threatened.

The **fresh on the go segment** is even more complex, adapting the product with a convenient format to eat outside of the house. It involves a specialized distribution that is adjusted to retail or small markets. The strategic move for the companies involved in the avocado value chain in Valparaiso is to shift from selling an ingredient to providing avocados that are *ready to eat*. Once they can reach this segment and get closer to the European market, the step forward is to be able to focus on more attractive segments such as “fresh on the go”. It is worth stressing that the *ready to eat* segment does not aim to substitute, but rather to complement the ingredient segment. It represents a valid alternative that rewards all those producers that carry out their work with a higher degree of precision, technology and adaptability to a new strategic business.

### **Areas of improvement**

The comparison between the diagnostic and ideal diamonds demonstrates which areas need to be addressed and improved in order to implement Paltec both at a cluster, as well as at an enterprise level.

In fact, the RDAV, supported by Competitiveness, lead the private and public sector working groups to define the key areas that are necessary to upgrade the value chain. These are namely:

1. **Quality.** The main advantage of this area is to create a different product that enables producers to obtain a greater negotiation power and larger profit margins.
2. **Logistics and ripening.** The objective of this group is to assure that the avocado reaches the market at the right moment to be eaten. Distribution plays a key role within the “Ready to Eat” segment, where delivered quantities are smaller and must be carried out at the exact time of ripening for each final destination.
3. **New consumers.** This group aims at designing a focalized promotion in order to educate new consumers about the nutritional qualities of the avocado and about how to eat it. In fact, the consumer of the *ready to eat* avocado does not need to know when to eat it, and, in such a way, it is ideal to attract new consumers. In contrast, the consumer of the ingredient avocado needs to know the right moment of ripening. This is a difficult choice for the consumer, that is likely to lead him or her to a negative experience.

4. **Business consolidation.** This working group aims at improving the negotiation power of local SMEs, helping them to obtain the margins they expect. The scope is to go from a cluster heavily dependent on large exporters (10 of them, with only 4 of them controlling 70 percent of total production), bound to a very simple product (meant as a commodity – ingredient avocado), to a cluster based on a more sophisticated product (*ready to eat avocado*), for which local SMEs acquire a greater negotiation power. The competition within this new segment, in fact, is not based on huge volumes, but on quality. Thanks to this program, the small producer gains a fundamental role through the creation of export consortiums that replaces the role previously played by the large exporters. This process is expected to provide producers with the negotiation power they need, and help run a sustainable and competitive business.

In order to reach the goals entailed in each area of improvement, the RDAV with the support of Competitiveness drew the following lines of **actions**:

#### 1. Quality:

- To understand the quality requirements demanded by importers operating in this segment;
- To develop a monitoring system controlling all factors affecting quality;
- To identify the local entrepreneurs that are able to enter this new segment;
- To help new producers getting involved in this business through certification mechanisms;
- To carry out capacity building courses targeted to local producers;
- To implement courses for new exporters;
- To impose the Eurogap certification;
- To foster R&D on product homogenization.

#### 2. Logistics and ripening:

- To include ripening Centre at destination, as strategic stage of the new value chain, allowing the fruit to be artificially ripened.
- To change the packaging because the product is commercialized per unit instead of bulk;
- To carry out research and analysis of the Brazilian market;
- To start the development of a promotion program;
- To design a new integrated information system.

#### 3. New consumers:

- To develop an effective commercialization strategy;
- To carry out a deep analysis of the European market and develop a marketing and promotion strategy.



#### 4. Business consolidation:

- To implement quality control certificate;
- To create a new brand;
- To accomplish new legal studies that are indispensable in order to create Export Consortiums;
- To develop a promotion program within the European market;
- To undergo a pre-investment for the creation of the consortiums; and
- To promote consortiums.

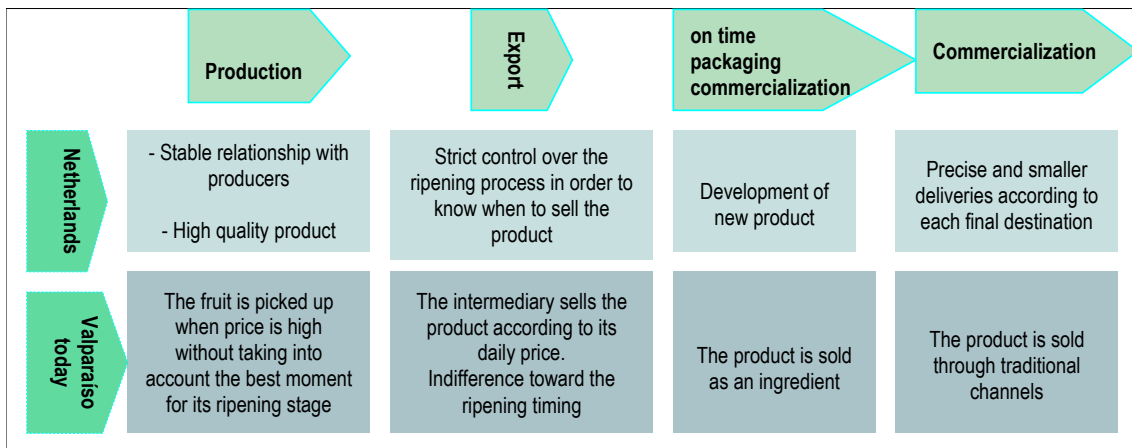
#### **The ready to eat value chain**

The design, production, and marketing of *ready to eat* avocado involve a chain of activities that are divided among a number of enterprises, often located in different places –in this case also countries out of the Netherlands and its ripening centres-.

In practical terms, in order to follow the strategic plan of Paltec, it is necessary to modify and adjust the existing value chain towards a new more complex one. The radical changes required are, in order of importance:

- **A ripening and packaging centre at destination** where the fruit can be artificially ripened: this is one of the major changes within the value chain. The packaging also changes as the product is sold by units instead of by loose kilos. The consumer does not need to touch the fruit in order to verify the ripening stage;
- **Production.** In order to access the *ready to eat* segment it is important to ensure quality standards through: more weight and more extended season of the produce. The most relevant issue is to focus on a high quality product that displays detailed information on its characteristics and way of consumption;
- **Export.** A quality management system is required with reference to information, logistics, and research processes and activities. The delivery process should be short in terms of timing (from weeks to days);
- **Distribution.** Deliveries are smaller and need to be precise in compliance with the ripening timing, according to each final destination;
- **Consumer.** As the product entails the service of knowing when and how it is ready to be eaten, the consumer does not need to know the right moment of ripening. Moreover, the consumer will be informed, through detailed descriptions on the packaging, of the nutritional characteristic of avocado.

Graph 7 – Actual versus ideal value chain



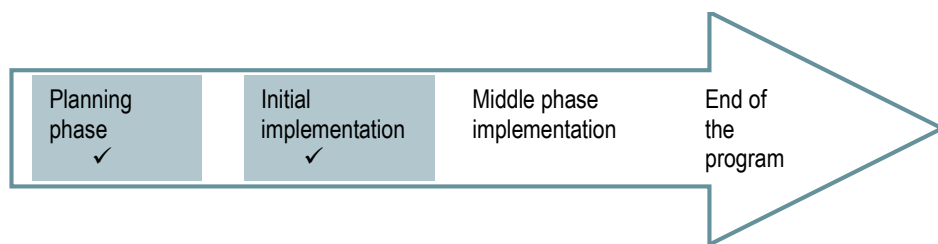
Source: PMC Paltec Región de Valparaíso, Agencia Regional de Desarrollo Productivo

### Results of the program

Paltec was launched only recently, and therefore evidence on the program's success is still limited at the moment.

However, impact indicators have been designed in order to measure the results reached in each area of improvement, to evaluate if the transition from the ingredient to the ready to eat segment is feasible and sustainable in the long run. The selected impact indicators are, namely:

Graph 8 – PALTEC's phases



- At least 30% increase of the price per kilo of avocado received by the producer;
- 20% increase of sales per employee of the micro and small and medium-sized enterprises that take part in the program; and
- At least 15 beneficiary enterprises developing *ready to eat* avocado and penetrating new markets.

Such measures can be verified through: surveys to the enterprises participating in the program and their respective control groups, official statistics, ongoing reports, and results' evaluation.

Still, there is a lack of financing to carry out such evaluations that still needs to be solved. In addition, given the world economic crisis, it may be expected that the results of Paltec avoid a sharp decrease of exports in the next two years, allowing the new business segment to resist the current crisis.

Concrete results achieved by August 30, 2009, can be summarized as follows:

- An arrangement has been reached by the parties, by entering into an agreement providing the setting up of a consortium on the 25th of August;
- The program gained funds in order to engage The University of Valparaiso, the National Agricultural Research Institute (Instituto de Investigaciones Agropecuarias, INIA), and the University of Wageningen (Netherlands) in joint R&D activities, in order to improve the fruit's quality and homogenization;
- The program obtained additional funds to support the joint marketing plan;
- Design of an export program for the next season. Currently, the negotiation project includes 5 containers that might rise to 13 during forthcoming negotiations; and
- High commitment to the program implementation by local producers. Improvements of the logistics process also counted on an active participation of different actors, including the Valparaiso University researchers.

With reference to enterprise sales the program is still at a negotiation phase, in fact:

- Until now, it is possible to assess that the program has had a good impact on the region in that it has involved about 150 enterprises.<sup>11</sup> The co-financing of the agenda, the private sector support varies from 20 to 30 percent depending on the line of action, and this itself shows the effectiveness of the project.
- A "ready to eat" importer and distributor requires higher volumes than those offered by the Consortium. During the meetings held in the Netherlands in August 2009, it was not possible to reach a commercial agreement. However, opportunities for new and different agreements were still underway;
- Another potential distributor in Europe, is still negotiating with the Consortium. The sale of avocado has been postponed, because of the

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<sup>11</sup> The effectiveness of the program has been remarkable, with many activities implemented successfully. Thus, the RDAV, supported by Competitiveness, organized meetings and interviews involving more than 400 local enterprises, local representative institutions, and 45 individual interviews with entrepreneurs; 15 working meetings with the participation of 27 entrepreneurs and local institutions in order to define the activities to be implemented.

current economic crisis in light of which the potential client took precautionary measures, delaying the shipping schedules.

In particular:

- The program helped fostering a strategic mentality among enterprises. Local producers, especially SMEs, acquired a greater awareness of their competitive position and adopted strategic solutions to gain new market shares;
- Paltec helped identifying and exploring joint market opportunities. In particular, it was possible to create a producer's consortium, to promote joint avocado *ready to eat's* production and sale;
- The program succeeded on the one hand in fostering capacity building activities targeted to enterprises, and on the other hand in developing joint actions by local SMEs. This is a noteworthy result in commercial terms, and it has been reached within a relatively short time period;
- The RADV played a crucial role in managing the program, being the main reference point toward local actors. It succeeded in creating proper public policy instruments supporting the program's implementation, thus adapting instruments to necessities. This capacity has actually not been matched by other local public institutions.

### **Challenges encountered during program implementation**

Many challenges had to be faced overcome during the program's implementation and these were mainly related to sharing responsibilities among the participating institutions, and to the potential conflicts of interest among different parties. This implied the need to redefine the role of the institutions involved in the project.

In particular, the **Hass Avocado Committee** was supposed to be in charge of the product's promotion, but it is not participating in the program any longer. As the Board of Directors is made of exporters, they do not have the incentive to promote the avocado *ready to eat*, that may reduce their profit margins. The Committee, in fact, is funded through a mandatory fee per ton exported and this would be convenient only when exporting large quantities that exporters directly manage. On the contrary, the *ready to eat* avocado foresees a more prominent role of local producers, and intermediaries need to maintain a stable relationship with them. The RDAV is now trying to negotiate the allocation of financial resources to the Hass Avocado Committee in order to involve them into the avocado *ready to eat* promotional business.

Problems related to the controversial division of roles have also occurred between CORFO and the RDAV. In fact, CORFO is in charge of assisting and supporting the RDAs' activities for the first three years of the program (2006-2009), but it is also managing regional programs, causing conflicts of interest, notably in terms of

the allocation of financial resources. However, these problems should be overcome by 2010, when the RDAs will gain their autonomy from CORFO and consequently will acquire an independent legal status (according to the Regional Governmental Law - while now the legal status is defined through CORFO). This aspect also raises the issue of the long run sustainability of the RDAs.

Another feature to take into account, is the fact that the RDAs had to cope with potential time inconsistencies: whilst they have been assigned very wide and different tasks and they have raised high expectations concerning their role and performance in the short run, the results of the CRIs may inevitably be achieved only in the long run; in addition, the ongoing change of the Chilean Government may affect their performance. Moreover, CRIs design and implementation varies from region to region as there is not a unique strategy. This might lead to a sort of competition among the different programs.

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