

Producer Relationships and Local Development in Fresh Fruit Commodity Chains: An Analysis of Blueberry Production in Entre Ríos, Argentina

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CRAVIOTTI C. Producer relationships and local development in fresh fruit commodity chains: an analysis of blueberry production in Entre Ríos, Argentina, *Regional Studies*. In current regional perspectives intangible capitals are considered critical assets of regional economies. The aim of this article is to analyse the role of networks in the development of blueberry production in the province of Entre Ríos, nowadays the most important productive area of Argentina. It argues that although horizontal networks (either private or public–private) were not particularly important for the emergence of blueberry production in the area, they are needed in a situation where a redefinition of the agri–food chain is at stake. Coordination and cooperation networks could help to sustain the continuity of production at the local level and to make local small-scale producers viable in a global context.

Local development processes Global commodity chains Fresh fruit exports Counter-seasonal production

CRAVIOTTI C. 鲜果生产商业链中的生产商关系以及地方发展：针对阿根廷蓝莓生产进行的分析，区域研究。在目前的区域研究中，无形资产被认为是区域经济的关键资产。本文分析了目前阿根廷最重要的生产地恩特雷里奥斯蓝莓生产发展中网络所发挥的作用。文章认为，尽管水平网络（私人或公私网络）对于该地区蓝莓生产的出现而言不是非常重要，但在特定的情况下，比如就农业食物链的再定义而言，网络是需要的。协作与合作网络有助于维系地方层面的持续生产同时可以将地方层面小尺度的生产商带入全球背景。

地方发展过程 全球商业链 鲜果出口 反季节生产

CRAVIOTTI C. Les rapports des producteurs et le développement local dans les chaînes de fruits frais: une analyse de la production de myrtilles dans l'Entre Ríos, en Argentine, *Argentina, Regional Studies*. Dans une optique régionale actuelle, les capitaux intangibles sont considérés des actifs essentielles des économies régionales. Cet article cherche à analyser le rôle des réseaux dans le développement de la production de myrtilles dans le province d'Entre Ríos, actuellement la zone de production la plus importante en Argentine. On affirme que les réseaux horizontaux (à la fois privés ou publics–privés) sont nécessaires dans des situations où une redéfinition de la chaîne agroalimentaire est en jeu, bien qu'ils ne soient pas particulièrement importants quant à la naissance de la production de myrtilles dans la zone. Des réseaux de coordination et de coopération pourraient aider la pérennité de la production au niveau local et rendre viables les producteurs à petite échelle sur le plan mondial.

Processus de développement local Chaînes mondiales de valeur Exportations de fruits frais Production contracyclique

CRAVIOTTI C. Produzentenbeziehungen und lokale Entwicklung in Frischobst-Warenketten: eine Analyse der Heidelbeerproduktion in Entre Ríos, Argentinien, *Regional Studies*. Unter den derzeitigen regionalen Perspektiven gelten immaterielle Vermögenswerte als wichtiges Kapital von regionalen Wirtschaften. In diesem Artikel wird die Rolle von Netzwerken bei der Entwicklung der Heidelbeerproduktion in der Provinz Entre Ríos untersucht, dem heute wichtigsten Produktionsgebiet Argentiniens. Es wird argumentiert, dass horizontale (private oder öffentlich–private) Netzwerke für das Entstehen der Heidelbeerproduktion in dieser Region zwar keine besondere Rolle spielten, aber in einer Situation benötigt werden, in der eine Neudefinition der landwirtschaftlichen Lebensmittellieferkette auf dem Spiel steht. Netzwerke zur Koordination und Kooperation könnten dazu beitragen, die Kontinuität der Produktion auf lokaler Ebene aufrechtzuerhalten und lokale Kleinproduzenten auf globaler Ebene wettbewerbsfähig zu machen.

Lokale Entwicklungsprozesse Globale Warenketten Frischobstexporte Produktion außerhalb des Saison

CRAVIOTTI C. Vínculos entre productores y desarrollo local en las cadenas globales de frutas frescas: un análisis de la producción de arándano en Entre Ríos, Argentina, *Regional Studies*. En las perspectivas contemporáneas de la ciencia regional, los capitales intangibles son considerados activos críticos de las economías locales. El propósito de este artículo es analizar el rol de las redes en el

desarrollo de la producción de arándano en la provincia de Entre Ríos, actualmente el área productiva más importante de Argentina. Se argumenta que si bien las redes de tipo horizontal (tanto privadas como público-privadas) no fueron especialmente relevantes para el surgimiento de esta producción en el área, son requeridas en una situación en la que está en juego la redefinición de la cadena agroalimentaria. Las redes de cooperación y coordinación pueden contribuir a sostener la continuidad de esta producción a nivel local y la viabilidad de los productores en pequeña escala en el contexto global.

Procesos de desarrollo local Cadenas globales de productos básicos Exportaciones de frutas frescas Producciones de contratemporada

JEL classifications: R11, R58, Q13

INTRODUCTION

In recent decades, a growing process of globalization of production and trade, in which agri-food activities are included, has been taking shape. Several lines of thought – as is the case of the literature on global value chains – have focused on its impacts on the structure of industries and the performance of countries in the global economy, or have been concerned with the scope for local development strategies, in a world where trade relationships are increasingly global (GEREFFI *et al.*, 2005; HUMPHREY and SCHMITZ, 2000).

Two issues emerge that are problematic in this regard, particularly for developing countries: the fact that in virtue of their control of critical assets and position in the chain, some agents are able to promote the relocation of production to other areas, viewed as more ‘competitive’ in relative terms, and the ability of these agents to exclude small-scale producers as providers.

In fact, the vulnerability of smallholders has been accentuated in the light of recent trends in agri-food chains. Restructuring has been occurring since 1970, but has accelerated since the early/mid-1990s in the liberalization/globalization stage through the consolidation and multinationalization of the processing, wholesale and retailing sectors. This, in turn, has implied changes in procurement systems, including a shift from public to private standards of quality and safety, from spot market relations to vertical coordination mechanisms, and from local to centralized procurement, including sourcing via global networks (REARDON *et al.*, 2009). Although these changes may provide new opportunities for small farmers, there is evidence of their marginalization, considering the difficulties they face in order to meet the quantity, timeliness and traceability requirements of these new supply chains, and their higher unit transaction costs as small-scale producers (MARKELOVA *et al.*, 2009; HAZELL *et al.*, 2010).¹

This article will explore the issue of the viability of smallholders in a global context by analysing a newly developed fruit production in Argentina: the blueberry. Usually, global chains of fresh fruits and vegetables have

been characterized as *demand driven* because of the leading role of large retailers therein. As key players the latter make decisions about the distribution of functions between the constituents of the chain, and with respect to the inclusion and exclusion of agents (DOLAN *et al.*, 1999). Furthermore, some studies have shown that in counter-seasonal production the saturation of demand or the entry of new regions into production can lead to the displacement of the most vulnerable agents and the deepening of inter- and intra-regional disparities (BAIR and DUSSEL-PETERS, 2006; MURRAY, 1999).

Throughout the analysis, smallholders’ access to key resources and their position in the agri-food chain will be addressed; however, special attention will be paid on networks. As a supplying country Argentina has inserted itself in a narrow window of opportunity among other leading exporters from the Southern Hemisphere. Blueberry production was previously unknown in the country and must meet stringent requirements together with third-party certification of quality standards. Therefore, knowledge dissemination and coordination mechanisms between actors seem vital. In this regard, it will be argued that although networks were not particularly important in the initial stage of emergence of blueberry production in Argentina, they are currently needed to ensure its contribution to local development and help to make local small-scale farmers viable in a global context.

The global value chain (GVC) approach is particularly concerned with the governance structure of global chains. Unfortunately, it places low emphasis on territoriality and on the institutional context that affects the configuration of chains and their developmental outcomes (DICKEN *et al.*, 2001; BAIR, 2005). Work within this perspective frequently bypasses the different trajectories of regions in the global context and the forms of negotiation and conflict between social agents (FLETES OCÓN, 2006).

It is precisely some of these issues that have been highlighted by local development perspectives, which consider intangible capitals as critical assets of regional economies (AMIN and THRIFT, 1993; SCOTT and STORPER, 2007). A key concept within this framework is that the competitiveness of territories is based on the

specialization of firms in different stages of the production process, and on the existence of an environment that encourages cooperation.²

Taking into account the above considerations, this article will attempt to articulate both strands of thought. It is structured as follows. In the next section some of the key concepts employed in the analysis will be introduced, followed by an outline of the methodological strategy of the research. The profile of the productive agents in the blueberry production of Entre Ríos will then be described, together with their ability to participate in horizontal networks. Finally, the different aspects of the analysis will be integrated in the concluding remarks.

NETWORKS, COOPERATION AND LOCAL DEVELOPMENT

Networks can be conceptualized as structures consisting of individuals (or organizations) connected by one or more specific types of interdependency, in which and through which power is exercised, and where exclusions and inequalities exist (DICKEN *et al.*, 2001). Their *territorial embeddedness* is a particularly complex matter, as they may operate in many geographical scales. Networks play a critical role not only in firm performance, but also in local development, understanding the latter as a process of growth and structural change that employs the development potential existing in a territory, and leads to the improved welfare of the local population (VAZQUEZ BARQUERO, 2000).

In the literature a distinction is usually drawn between those relations which are horizontal, non-hierarchical and vertical (hierarchical). In general terms, close horizontal ties have been linked to collaboration, information exchange and learning. For some approaches such as the theory of the innovative *milieu*, horizontal relationships between firms and public and private institutions at the meso- (regional) level facilitate collective learning processes and innovation (CAMAGNI, 1991; BRAMANTI and RATTI, 1997). Subsequent analysis has shown that 'involuntary' external economies may be important for cluster growth but are insufficient to deal with crises. On the contrary, relationships that have been intentionally sought by agents enable them to react to changes in product and factor markets (DIRVEN, 2006). From this perspective, networks can be visualized as a mechanism of coordination and governance at the local level for the addressing of complex policy problems.

In the case of smallholders, some types of horizontal networks (such as cooperatives and other types of groups created for marketing purposes) are especially helpful in reducing their transaction costs and increasing their bargaining power when negotiating with buyers (MARKELOVA *et al.*, 2009). Interestingly, both types of horizontal networks (private and public-private) can

act in a complementary manner (NARROD *et al.*, 2009). Thus, their presence and strength will be highlighted in this analysis of blueberry production in Entre Ríos.

It must be noted, however, that the recognition of the importance of networks has not been accompanied by a parallel effort in identifying their process of formation and the factors affecting it. Structural approaches do not explain how networks come into being, nor how individual behaviour can upset their structure (KAMANN, 1998). Besides, there is no common explanation regarding the type of conditions that favour cooperation. Particularly in business studies different perspectives can be identified: relational contracting theory (which posits that a sense of trust between partners is essential), strategic behaviour theory (which suggests that firms develop strategies to obtain advantageous competitive positions and reduce uncertainties) and resource dependence theory (which states that cooperation is sought to obtain access to complementary resources).

A review of the empirical findings indicates, however, that spatial proximity, homogeneity and a prior existence of informal relations can be advocated as critical factors for network formation and persistence (KJOLLERSTROM, 2004).³ Homogeneity enables the identification of common problems and needs, as well as agreement on common norms. Informal relations imply higher levels of trust and a reduced likelihood of opportunistic behaviour. Although trust cannot be induced (GAMBETTA, 2000), subsequent interactions, transparency and a gradual assumption of risks can help to sustain incremental confidence-building processes (GOOD, 2000). Finally, the influence of the external environment cannot be underestimated: the emergence of cooperative networks is contingent upon the larger social institutions in which they are embedded (GULATI and SINGH, 1998).

In agri-food production the empirical evidence suggests that less concentrated structures of production are associated with greater levels of cooperation among growers (PIETROBELLI and RABELLOTTI, 2004). Also, the characteristics of the traditional sales channel and the current market situation of the product – resulting in different net benefits associated with collective action – help to explain divergent results, in the case of networks aimed at establishing alternative marketing channels (KJOLLERSTROM, 2004). Perishable but potentially high-value products are more likely to offer sufficient returns to offset the organizational costs involved (MARKELOVA *et al.*, 2009).

Research tends to support, however, that in the specific instances where horizontal cooperation has emerged, it has generally been through a long learning process in which complex public building instruments have played an important role (PIETROBELLI and RABELLOTTI, 2004; DIRVEN, 2006). The literature is

clear about the relevance of facilitators who catalyse collective action, provide information, technical assistance and even financial support, and add on the fact that the genesis of a network requires time: aspects such as trust, common recipes and shared mental maps do not grow overnight (KAMANN and STRIJKER, 2004).

The main points can now be summarized: the importance of networks – especially those which are horizontal – has been conveniently highlighted by the development and business literature. But analysts sometimes tend to forget that even these structures may involve the exclusion of agents, particularly those who are the most vulnerable. The complex set of factors enabling their emergence and persistence, including the role performed by different types of organizations (local or non-local, private and public), should also be carefully analysed.

DATA AND METHODS

The study of blueberry production in the province of Entre Ríos was considered particularly relevant in virtue of some features related to the production itself (a non-traditional, export-oriented activity which requires a high level of investment) and of the particular area, located in north-eastern Argentina (encompassing a high contribution to blueberry national exports and a previous tradition in fruit production mainly oriented towards domestic markets). Research was financed by two three-year research projects, the first of which focused on blueberry alone, while the second focused on blueberry and citrus production.⁴

Research was carried out since 2006 in Entre Ríos, involving both quantitative and qualitative research techniques, aimed at the triangulation and cross-examination of results. The former were considered particularly relevant due to the intangible character of networks and social interaction. Semi-structured interviews were conducted with different key informants (growers' and workers' organizations representatives, local government officials, technicians, service-input providers, and export companies). To select key informants, it was considered that different perspectives needed to be covered according to their position in the chain and/or their role in relevant public or private organizations related to production, mainly at the local level. As the interviews were carried out interviewees were asked who else should be interviewed, which is known as a 'snowball' technique.

In addition, semi-structured interviews with growers were performed in two different years (2006 and 2009), which represent two different stages in the development of blueberry production, namely a market expansion phase and the beginning of a saturation phase. The first group of interviews covered different producer strata, aiming to characterize their profile from the standpoint of the production strategy, the technologies

and organizational forms of production employed, the access to relevant information, and sources of provisioning among other aspects. The sample covered 67% of the area identified with blueberry production and was drawn from a register of the local blueberry producer organization (APAMA). The second set of interviews proceeded in an intentional way, and focused on small and medium-sized growers (defined by the previous study as those owning fewer than 15 hectares of blueberry). Growers who varied in their place of residence and previous experience as agricultural producers were selected. These interviews enquired about the evolution of their production units, their horizontal links (with other growers) and vertical links (with marketing companies) as well as on their perceptions of the activity.

As a result of this process, roughly forty-five key informants were interviewed, together with twenty producers in 2006 and ten in 2009, with the total interview time per interviewee ranging from one to two hours. Interviews were recorded and then transcribed, and field notes were taken. The primary information was combined with the consideration of secondary data such as statistics and materials coming from specialized magazines and blogs. For the analysis of qualitative material the usual approaches for qualitative analysis were followed (GLASER and STRAUSS, 1967) with the help of the software Atlas-ti, while for the processing of quantitative variables SPSS was employed.

PROFILE OF PRODUCTIVE AGENTS IN BLUEBERRY PRODUCTION IN ENTRE RÍOS

In a context where fruits and vegetables represent one of the most dynamic sectors of agriculture worldwide (BENDINI, 2007), blueberry production gathered speed in Argentina following the devaluation of the peso in 2002 and the change in macroeconomic conditions. Export companies and plant growers promoted blueberry expansion by emphasizing the suitable agro-ecological conditions of some areas such as the north-east of the province of Entre Ríos and the high return rates to be obtained by this export-oriented production.

However, the development of this particular crop in Argentina cannot be separated from the increasing globalization of agri-food commodity systems and the growth of new patterns of 'healthy' consumption in developed countries, such as fruit and vegetables. In the case of the blueberry, its high content of vitamin C and antioxidants contributes to this positioning in the minds of consumers. Indeed, Argentine production aims to meet the demand of the United States and Europe in a relatively narrow window of opportunity – the months of October and November – when those markets experience a shortage in supply. As shown in Table 1, half of Argentine blueberry exports have been concentrated in a single month over the

years, with virtually no major changes since their beginning. It should be noted that between 60% and 70% of export volume goes to the United States, in particular on the fourth Thursday of November (Thanksgiving Day), though in recent seasons there has been a greater attempt to diversify exports, expanding sales to other developed countries, mainly in Europe.

All these features raise significant logistical requirements at the harvest and post-harvest stages. Berries usually ripen over several weeks and require several pickings to harvest. Hand-harvested fruits are graded; only those that meet quality standards are packed in different sorts of trays taking into account buyers' requirements. If exported to the United States they must be disinfected with methyl bromide and are mostly sent by aeroplane because of their perishable nature; they must remain chilled until they arrive at their destination. Fruit traceability is ensured at every step of the process. For a description of the blueberry chain, see Fig. 1.

Despite being a non-traditional crop in Argentina, exports have been experiencing an upward trend, reaching 12 202 tons and US\$74 797 000 free on board (FOB) value in 2008. In light of this, blueberry ranks fifth among Argentine fresh fruit exports. Argentina is in second place among Southern Hemisphere exporters after Chile, which exported 21 100 tons in 2006/2007. Its condition as an export-oriented activity has remained virtually unchanged since the beginning of the crop in Argentina: 2008 data show that 94% of production goes fresh to the global market, 3% is sold fresh in the domestic market and only 3% is processed (INFOBERRY 25).

In 2008 there were roughly 4000 hectares dedicated to this crop, of which 53% were situated in the north-east of Entre Ríos (INFOBERRY 25). Farms in this province are located mainly in the department of Concordia, in a strip of land adjacent to the Uruguay River, supported by the physical conditions of the area: the availability of loose, sandy soils and an appropriate climate. A census carried out in 2007 by the province of Entre Ríos (DIRECCIÓN DE ESTADÍSTICA Y CENSOS (DEC), 2008) revealed the existence of ninety blueberry growers in Concordia covering 1600

hectares. The blueberry expanded on abandoned or heavily indebted citrus farms; however, citrus is still the prevalent fruit production of the area, with 444 growers and 13 797 hectares, being mainly oriented to domestic markets.

The strong tradition in fruit production has been exploited in several key dimensions, for example, by profiting from the availability of workers for labour-intensive tasks (mainly harvest). The seasonal demand of blueberry production has been estimated to be no fewer than 10 000 workers, a considerable figure for an area whose working population is estimated to be 55 000. The complementarities between the productions are favoured by their production cycle, since the blueberry harvest begins when citrus exports come to an end. Furthermore, Concordia had an adequate supply in terms of input and service providers which has been fully exploited (as is the case with labour and machinery contractors, drilling experts, and citrus packing houses that have incorporated the classification technology specific for blueberry).

However, few of the local citrus farmers began the 'new' activity due to the high investments it required.⁵ The cases that have done so are small-scale farmers who have implanted a few hectares with blueberry to diversify and complement their incomes. Also there was an ostensible lack of interest in the crop on the part of the large citrus companies operating in the area. Consequently, the presence of *newcomers* with no background in the farming sector is notable in blueberry production. In some cases they have developed capital-raising mechanisms like trust funds.⁶ Foreign capital (primarily Chilean) is found at several stages of the production process and it plays a key role in the marketing phase of the product.

Export is concentrated in just seven companies, which hold 80% of the market (INFOBERRY 25). In the blueberry chain, importers or related companies from the United States either own part of the capital of the export companies operating in Argentina or have exclusive agreements with national owned firms. Producers sell their fruit on consignment, having no basic price guaranteed. They receive statements with the final prices no sooner than forty-five days after delivering the blueberries. Most of them have no control over the post-harvest and marketing stages, and perceive their relationships with export firms as deeply asymmetric.

The agrarian structure shows the importance of big business; by 2005 it was estimated that just seven farms covered about half of the blueberry area (CRAVIOTTI and CATTANEO, 2006). However, the number of growers with fewer than 10 hectares is significant (Table 2).

Blueberry farms are basically of the manager type and are based on permanent and temporary workers. Growers have invested in 'hard' technologies (for example, varieties, frost-protection systems and, in

Table 1. Argentina: blueberries exported in the last quarter of the year as a percentage of total year exports, 2001, 2006 and 2008

Month	Year		
	2001	2006	2008
October	20	28	29
November	48	51	51
December	28	16	9

Sources: QUAGLIANI *et al.* (2007) and SERVICIO NACIONAL DE CALIDAD Y SANIDAD AGROALIMENTARIA (SENASA) (2008).

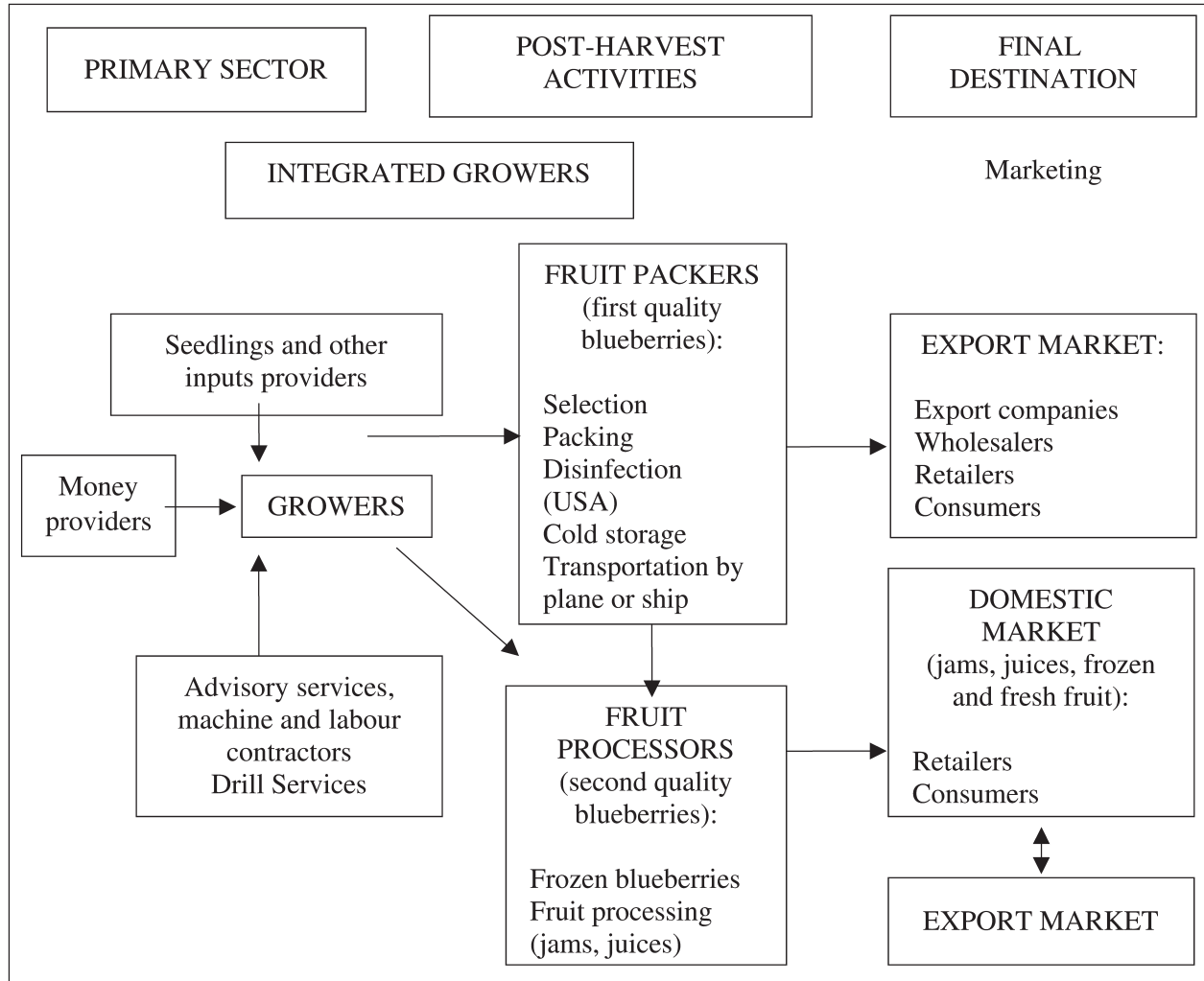


Fig. 1. The blueberry chain

some cases, anti-hail nets) as a way of limiting risks. The use of so-called 'soft' technologies is widespread as well, for example, conducting a pilot project prior to start-up (which is partially linked with the setting up of trusts funds) that estimates the internal rate of return and cash flow, scheduling investments. It also includes consulting technical experts from the private sector (in some cases from other countries) on a permanent basis and using information technology in task recording (as required by the adopted quality standards, such as Globalgap and Nature's Choice, among others) as well as in production recording.⁷ In some cases the latter is done several times a day during harvest to account for potential shortfalls and details yields per plot, blueberry variety and worker.

Despite these traits that suggest a 'professional' farming style, some meaningful differences can be found among growers. Large-sized farmers usually choose to outsource to work contractors the most labour-intensive phases of the production process, such as the harvest, a feature less observed in small-sized growers. Most of them integrate more than one

stage of the chain as well (namely production, packaging, cooling and exporting), either directly or through affiliated companies.

Small-sized growers, which are a heterogeneous group in terms of agricultural background, also differ from big farm owners in that they frequently live in the city of Concordia, close to the plantations. Several of them have formed 'joint ventures' with relatives or acquaintances in order to access the capital required by blueberry production and have increased the implanted surface gradually. There are cases in which financial difficulties have forced them to suspend their initial investment programme, though all earn off-farm incomes that help them to sustain agricultural activities.

Capital constraints affect the type of varieties chosen (usually small growers prioritize those of lower cost, non-certified or patented) and the degree of adoption of frost-protection systems, among other key aspects of crop management. It must be stressed that the choice of varieties is a fundamental aspect because of its implications for subsequent performance. While most growers, regardless of their size, have initially

Table 2. *Entre Ríos: blueberry farms by hectares dedicated to blueberry production*

Farm size (ha)	<i>n</i>	%
Up to 10	54	56.3
11–20	17	17.7
21–30	7	7.3
31–40	8	8.3
41–50	4	4.2
More than 50	4	4.2
Without answer	2	2.1
All	96	100.0

Source: DIRECCIÓN DE ESTADÍSTICA Y CENSOS (DEC) (1999–2008).

concentrated on one or two varieties, more recently an effort to revert this situation can be found on the part of large growers; small-sized producers face greater difficulties in replacing varieties. In terms of ‘soft’ technologies, differences between farmers are not so marked, even if small-sized growers make less use of computer technology for data recording and treat workers more personally. Moreover, these growers have access to less technical support; some have no permanent technicians at all.

PRODUCER RELATIONSHIPS AND PUBLIC–PRIVATE NETWORKS IN BLUEBERRY PRODUCTION

Given the theoretical perspective outlined above, it is interesting to enquire about the eventual existence of knowledge exchange mechanisms and ways of cooperation between growers in a situation where a high level of uncertainty persists owing to the novelty of the crop in Argentina. This section will argue that the weakness of these intangible capitals adds to structural constraints in affecting the successful integration of small-scale growers and the sustainability of the territory as a platform for blueberry production oriented to global markets. It will also identify the key factors that explain this outcome.

Networks for the dissemination of knowledge

The existence of an information network can be considered as the first step of a more complex system of relationships between agents and linkages with external support (CASALET, 2005). In this regard, it is worth mentioning that the studies of CAMAGNI (1995) indicate that large firms are more autonomous than those which are small and medium-sized because of their ability to mobilize internal resources and access research and development budgets. They can establish trans-regional networks, through which they access complementary assets, markets and technologies, without resorting to local organizations. In contrast, in the case of small

firms, the local environment is an important mechanism for learning and reducing uncertainty. Local networks are also key elements for the development of tacit knowledge, rooted in the territory.

However, interviews conducted during the expansion phase of the crop (2006) showed hindrances to the circulation of knowledge, expressed in the resistance of some growers to sharing information, while others – more frequently the smaller ones – perceived barriers to accessing essential data.

As of December 31, we shut our doors, I accept people coming into the plantation, but if these people will not let me go to theirs to talk and see, I am not interested in that relationship. ... We got tired of giving free advice.

(Grower, member of a company with 34 hectares of blueberry, 2006)

I’m in touch with seven projects similar to mine. What we see as the biggest problem is the issue of advice, we have no access to professional advice, and are developing an activity that we do not know. We encounter serious problems that we cannot define, because there is no expertise in the subject, and the technicians of these large holdings are restricted in terms of their ability to give external advice, and very reluctant to make comments that could lead us in the right direction.

(Grower with 4 hectares of blueberry, 2006)

In the expansion stage, knowledge was valued as an intangible capital to be protected, as its importance would increase if product market conditions changed. Fear of losing trained workers prevailed; knowledge transfers did not take place in a socialized way, that is to say, there was no collective ‘public’ learning process (CAPELLO, 1999).

Also, due to the short history of the crop in the area, there were no *bridging* institutions which in other contexts emerge as enablers of new dynamics based on interaction (CASALET, 2005). Local research institutions were to a certain extent looked down upon by growers because they assigned them a limited experience in the blueberry and a narrow focus on citrus, the traditional fruit production of the area. Consequently, producers relied primarily on private technicians, although they claimed the necessity of public researchers devoted exclusively to blueberry and, more recently, a leading role on the part of public institutions in generating the technical solutions and arguments they need to back-up their positions. Ties with these institutions continue to be weak and overlap with more recent agreements that the local blueberry organization (APAMA) has begun to develop with universities located in other areas of the country.

Networks for the coordination of actions among blueberry growers

In this early stage of crop development in Entre Ríos, selective networks could be identified between large firms to hire expert advice from other countries, while

in other cases the fact that they included the same partners in the ownership enabled joint commercial actions (such as purchase of inputs and sale of production), as well as unified management.⁸ In the case of small growers, joint activities were rather absent, especially during the post-harvest phase. Notwithstanding this, they detected several problems in the marketing spheres (prices lower than expected, delays in the collection of production) that recommended the establishment of cooperative actions to defend common interests. The lack of coordination between small growers affects the type of contracts they establish to sell their product as well as their ability to react when clauses are not met by marketing companies. Acting collectively through cooperatives or other types of horizontal networks could allow producers to negotiate better prices and conditions with export firms, or even to bypass them altogether through more direct access to wholesalers.

However, the laxity in coordination mechanisms between growers and also between marketing companies has shown clear drawbacks in recent years. Suppliers of the product overlap in the same external markets during the weeks where peaks of production are reached, generating considerable logistical problems and a sharp decline in prices. 'Hard' figures are telling in this respect, indicating the declining trend in the price of the product (Table 3). In the 2006–2008 period local blueberry production rose by 108%, while its FOB value rose by just 62%.

To understand this phenomenon, the explosive increase in the volume of fruit must be considered (due to the entry into production of new plantations and the increased production coming from the older ones), while sales remain concentrated in a very limited period, with little diversification of the destinations of the fruit exported. In 2008, these factors, combined with the impact of the international financial crisis on demand, generated a critical situation forcing a sharp cut in harvest, as the prices obtained were not profitable.⁹ Producers that exported through trading companies were told that the receipt of fruit was suspended, or that only varieties of fruit suitable for sea shipping would be accepted. There were even situations in which some of the fruit was returned to growers and could not be reoriented to processing because of a lack of demand. After the harvest season some of them found that they were indebted to export companies due to the

post-harvest and marketing expenses required to sell their fruit.¹⁰

In this new scenario, deals between producers and exporters have also changed. The author's interviews of 2009 indicate that in the last two harvests some producers had actively to seek export companies to place their fruit as most of them had 'completed their quota' of providers.¹¹ Export firms have begun to select those that best meet their requirements in terms of volume, crop management, standards certification and estimated dates of harvest, thus excluding less capitalized small producers. This implied a complete turnabout if compared with the situation two years before where the lack of sufficient harvest workers was perceived as the main 'bottleneck' of the activity and few, if any, problems were anticipated in the marketing sphere, at least for several years.

In 2008, the critical situation forced the intervention of the provincial and national governments through subsidies to workers, which were intended to afford the pruning of non-harvested plants to prevent diseases and avoid harming their future development. Also, the provincial government offered zero interest-rate loans to growers with fewer than 15 hectares. This policy was questioned by the sector because through the former they could cover only a minimum percentage of the estimated operating expenses and required the association of at least three growers to apply. Lacking the sufficient time and support to mature, this government initiative promoting cooperation between small growers failed; the necessity to associate was eliminated and loans turned into individual subsidies.

Interviews held in this recent stage of the development of the crop reaffirmed growers' resistance to group together and provide mutual guarantees that they would comply with loan repayment. They showed the prevalence of instances of distrust towards other blueberry growers or a general distrust of societies of any kind. Hence, one of the features usually considered essential for cooperation mechanisms to arise is rather fragile in blueberry production in Entre Ríos. It should be noted, however, that the local context does not favour the emergence of cooperative networks; in the case of citrus production successful joint experiences have been scarce.

The persistence of the difficulty in threading a common strategy despite its necessity in the present

Table 3. Argentina: blueberry exports, 1999–2008

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Volume (tn)	93	183	289	514	845	1583	2898	5856	7459	12202
FOB value (US\$, thousands)	1512	2034	3795	5807	7350	16267	29335	46173	61650	74797
Average price per kg (US\$)	16.2	11.1	13.1	11.2	8.7	10.3	10.1	7.9	8.3	6.1

Note: FOB, free on board.

Source: SERVICIO NACIONAL DE CALIDAD Y SANIDAD AGROALIMENTARIA (SENASA) (2008), Fruit Export Statistics.

situation may be attributed to the limited interaction among blueberry growers who in most cases live in other cities of the country and are heterogeneous in terms of size and degree of vertical integration. Even local small-scale growers question the lack of trust and solidarity with one another, while some of them implicitly argue that the 'inevitable' decline in the number of producers may bring about some benefits to those who are able to persist, such as a greater availability of temporary labour for harvesting purposes. In this context, they even consider themselves to be more competitive because of their scale. In the words of a producer with 6 hectares of blueberry:

Undoubtedly, the more you plant, the more you obtain, but you face obstacles in the labour force and in the placement of the product at the moment, so I don't know if it is convenient. A small, well-managed area is more profitable.

However, the role of these farmers in providing flexibility for buyers, who probably rely mostly on larger farms for their supply and resort to smaller ones according to market demand, certainly cannot be overlooked.

Some indicators, though, point to incipient collective actions on the part of some smallholders, aimed at accessing a better positioning in the blueberry commodity chain. In this light, embryonic initiatives towards the formation of consortia – that strive to skip local intermediaries and sell directly to importers – can be mentioned. These are selective, informal networks, whose conformation is based on a similar level of blueberry production and quality concerns, as well as a common view of the business. Fruit quality is a key criterion for joining these informal organizations because of the risk of standard violations – such as in levels of pesticide residues – that could affect export operations and the confidence of buyers.

Preliminary analysis reveals that mutual trust is a fundamental constituent of these initiatives and is constructed through transparency and a permanent attitude of sharing information among members. It also highlights the importance of gradualism and flexibility as internal features of operation. Gradualism is perceived, for example, in preserving the link with export companies while testing direct sales of part of blueberry production. Flexibility is shown in the internal establishment of common rules and in the distribution of tasks and responsibilities among members, which are reviewed and adjusted according to their evolving needs.

Further research is needed on the future of these collaborative ventures. Many difficulties need to be overcome in order to succeed, such as the ability to contact reliable buyers, access to financing to afford the cost of post-harvest activities (packing, cooling and transportation services), and the efficient management of the required logistics. That is why a significant number of small growers remain sceptical about these

initiatives, and instead attempt to reach the best possible (individual) deal with export companies; this is opportunistic behaviour stimulated by some of the latter. According to a number of producers interviewed:

The little ones [the export companies] destroyed us, they succeeded in dismembering us ... because APAMA, instead of supporting us, it has always been the same, the president, the vice president, belong to the Chilean export companies, it's a huge issue. ... You present [them] the problem and [they] say, 'I'll buy you the fruit', but afterwards

(Producer with 2 hectares of blueberry, 2009)

I always say, business is in the hands of the export companies, the majority of whom are Chilean, then what we have to do very slowly as a country, as a region, is to try to get part of the market from the Chileans, I do not know how many years they have been in the business, many more than us, it has cost them money, they will not let other people in so easily. To build a consortium, a group, to enter into the market with a perishable fruit, is complicated. ... The benefit that it gives you to associate is that you have an economic advantage to purchase inputs, the other one is the volume supply. As today we have an excess of supply, this offer is not tempting. I think this is not the solution to the problem.

(Producer with 6 hectares of blueberry, 2009)

The (possible) role of public-private partnerships

Following the insights coming from other experiences (NARROD *et al.*, 2009; BRESSAN and LAGO DA SILVA, 2009), in the present stage of development of blueberry production in Entre Ríos a public-private partnership could be especially valuable for generating collective infrastructure development (for example, in packing facilities) and offering standard certification services suitable for small-scale producers. Both aspects are required for accessing global markets more directly.

Though important, these actions seem insufficient for ensuring the sustainability of blueberry production in the local scene: data from 2010 show a sharp decrease in the production area (involving about 600 hectares, one-third of the total implanted in 2007), implying not only fewer producers, but also the loss of at least 2500 seasonal jobs, together with negative impacts in the input and service provider sector.

This situation is probably a consequence of the absence of planning of production according to a sound estimation of the absorption capacity of the markets to which most Argentine production is directed. In this scenario, a common diagnosis and the coordination of strategic actions are seriously needed. The importance of the issues at stake also requires the involvement of the multiplicity of agents – particularly those which are public – who influence the development of this production at the local level.

It is worth mentioning, however, that the commitment of local public institutions has been limited so far, probably as a result of the novelty and rapid development of blueberry production in the territory and the incapability on the part of producers to install the legitimacy of their concerns in the policy agenda.¹²

On the part of the local government, actions taken at the stage of expansion of the crop were directed at supporting the development of a labour market for harvesting purposes, although there was some concern about possible negative side-effects (in terms of the permanent settlement of migrant workers and precarization of labour).¹³ Other mechanisms of regulation, linked to the high use of natural resources by blueberry production (due to the irrigation and frost control systems employed), were not put into practice, even if they were considered by some stakeholders as necessary. Later on a collaborative public-private board (*Mesa del arándano*) was launched at the local level, but participation has been limited and the results obtained have been rather scarce, so the initiative has been fading away. In the words of a public official who took part of the meetings:

In the case of the blueberry, because of the production issue itself and on the demand of the Ministry of Labour, a table of the sector was formed. We try to call the main institutions and organizations that have some influence on this production. ... Personally, it was a difficult experience to try to mobilize some producers, first of all because they are not a homogenous block. ... They had no relationship with any state organization until they had serious difficulties in this campaign. ... When all this started to become more complex, they started knocking on all the doors they could. ... Up to this moment we haven't succeeded in achieving a common goal for all the institutions.

(Public official, 2009)

At the present stage of development of the crop, different proposals are being considered, such as developing promotional campaigns of the product as well as actions aimed at blueberry industrialization; establishing production registers that enable the coordination of supply; setting up a public monitoring system of export companies to ensure the enforcement of contracts; and creating a public-private entity for marketing purposes. Yet no consensus has been reached so far among private and public organizations, and no clear actions have been outlined. That is to say, although the critical situation of the sector, and particularly of some agents, has been recognized locally, the change in market expectations is perceived by some agents as beneficial or as involving limited negative effects, because the most affected sector – harvest workers – engages in the activity for only two months maximum, due to the marked seasonality of a crop fully oriented to global markets. Consequently, subsidies

to these workers may seem more feasible than an integrated policy devoted to reorientate production.

SUMMARY AND CONCLUSION

The above analysis has shown the evolution of a type of production previously unknown in Argentina, whose development is consistent with the core tendencies of the agri-food system as a whole as well as with the changes which have occurred in local macroeconomic conditions, which have facilitated the entry of new agents into the agrarian sector aiming to capture the high returns of an export-oriented production.

Attention has been focused on the institutional conditions required for local development in a global economy. In this respect it was stated that in the studied area cooperative relationships that facilitate information exchange and the coordination of actions for accessing export markets are rather weak or incipient. Networks were not important for the initial development of the crop but, if they had been present, they could have provided a 'safety net' for its subsequent phases, where a redefinition of the productive structure is at stake, with its negative consequences on small-sized growers and workers. Hence, one implication of research is to alert of the need of intentional actions on the part of private and public agents to favour the emergence of these components of development from the very start. Collective action is required not only to spur innovation and enhance the appropriation of its results, but also to reduce risks and ensure the sustainability of new, high-value activities in the local sphere and the agents involved. Taking into account the type of product, there is a broad scope of measures that can be envisaged and which could be taken through private and public-private networks acting in a complementary way.

On the territorial level coordination mechanisms could fulfil two primary functions: one is technical, facilitating learning dynamics and providing production-related services; the another is political, promoting a shared vision of development and reinforcing the commitments between the different stakeholders. Of particular significance is the planning of production and exports, together with an effort towards the diversification of markets and sale channels. With respect to small-scale growers, their grouping in horizontal networks such as cooperatives and consortia could enable them to negotiate better conditions with marketing companies or wholesalers and reduce their transaction costs. Thus, the situation seems to require the development of multiple layers of networks to connect the existing agents, in a case where horizontal relationships have been present only to a limited extent, so as to ensure the continuity of production at the local level and prevent its consolidation in a few, large farms.

As the literature has shown, building networks takes a significant amount of time and a regular or continuous interaction, which in this case is limited by the novelty of blueberry production in the territory, the scale heterogeneity of growers and the *newcomer* character of most of them. Supporting institutions could hold a key role in facilitating the emergence of horizontal linkages and strategic planning between agents. External facilitation is particularly required to help members to deal constructively with heterogeneity by building a network culture: working through the tasks of defining clear goals, establishing a sense of shared purpose and confirming a minimum of common values (BERNARD, 1996).

On the other hand, as MESSNER (2002) states, it is essential to use the analysis of global structures to avoid voluntaristic efforts. Indeed, endogenous development seems more difficult in the case of demand-driven fresh fruit global commodity chains, because of the incidence of critical agents who control – either directly or indirectly – the development of production. An important feature in this respect is the consolidation occurring among wholesalers and retailers, who can use their market position to exert market power over upstream agents within the commodity chain (BAIN and BUSCH, 2004).

Linked to this aspect, the analysis of the dynamic of export-led production, such as is the case of blueberry, has shown the matrix of opportunities and pitfalls associated with an export-oriented model, where the scope of actions open to local players is deeply conditioned by the global context and the governance structure of the chain. Taking into consideration that agri-food exports are strongly affected by the decisions of transnational corporations on where to locate production, the importance of both domestic markets and markets regarding processed fruit should be re-evaluated. Several initially export-oriented clusters in Latin America subsequently developed a phase of development of local markets to mitigate risks and absorb surplus or products that did not have the required export quality. Raspberries and salmon in Chile have been mentioned as examples of this partial reorientation of regional clusters (DIRVEN, 2006).

These types of strategic actions will probably not remove the cycles of vulnerability that are part of the current globalization of the food system, but could at least help to reduce some of their effects at the local level. Following the remarks made by CAVALCANTI and MARSDEN (2000) on an export-oriented production of the San Francisco Valley in Brazil, it must be noted that the sustainability of the blueberry as a platform for local development has been threatened from its very beginning. Initially hard technologies (varieties, irrigation systems, packing houses, etc.) were considered key factors to obtain production. Rather quickly other issues emerged, such as the availability of enough harvest workers and, later, the need to regulate

product supply to avoid an impact on prices. These factors are reminiscent of the day-to-day challenges involved in combining the expansion of an agri-food global commodity chain with the development of the territories and people concerned. They also point to the need for organizational innovations (aiming at the coordination of actions) so as to sustain the positive effects of these new activities at the local level and cope with those which are negative.

Finally, the analysis has shown that the consideration of the *institutional and relational dimension* should be deepened in agri-food commodity chains studies, taking into account its relevance for endogenous development. This should be done from a multi-scale perspective in order to illuminate the complex set of locally embedded features that have an effect on development and on diminishing the vulnerability of regions and local agents in a globalized world. But networks should not be visualized as a *deus ex machina* that bursts onto the local scene to sustain development when certain problematic issues emerge. Instead, the awareness of the factors that affect their conformation and persistence, either through the agency or passiveness of specific agents – with their possibilities and constraints – calls for further grounded, qualitative, empirical research.

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NOTES

1. In scale-dualistic contexts, the latter explains why companies tend to source from larger farmers and eschew smaller ones. However, there are exceptions to this pattern: companies source from small farmers where they dominate the agrarian structure and have non-land assets that make them able to respond to their requirements; sometimes ‘resource-provision contracts’ are developed to address these constraints. Moreover, sourcing from small farmers may be preferred by companies because they regard them as less risky than larger farmers and more able to perform intense and careful field practices (REARDON *et al.*, 2009).
2. This approach includes not only market relations between economic units, but also the informal relationships between agents and the links established with different types of institutions – such as research institutes, universities and private entities that support production – which allow the creation and diffusion of knowledge.
3. In fact heterogeneity is not intrinsically bad, as it contributes to introduce new ideas and opportunities, but it requires a major investment in building trust among diverse actors.

4. Research projects PIP 5070 – funded by the National Council of Scientific and Technological Research (CONICET) – and PICT 1320 – funded by the National Agency of Scientific and Technological Promotion (ANPCyT) – of Argentina.
5. The level of investment required by this export-oriented production can be shown through different indicators. The costs of implanting 1 hectare of blueberry in the province of Entre Ríos have been estimated by key informants as being between US\$15 000 and US\$35 000, depending on the technology applied. Seedlings impact heavily in costs because of their high price and high density per hectare (3300 or more); some are patented varieties, which make them more expensive. Other investments required are drip irrigation systems and frost protection measures. Moreover, the types of soils of the province of Entre Ríos recommend tracing level curves to prevent water erosion.
6. According to the Argentine Chamber of Producers of Blueberries and Other Berries (CAPAB), only 21% of producers are farmers of origin.
7. Because fresh blueberries cannot be washed or sanitized, third-party certification focuses on good hygiene practices and the appropriate use of pesticides. This includes the availability and use of toilet facilities and hand sanitizers for pickers, and following written cleaning procedures for picking equipment and machinery. Water quality is also an important issue because growers irrigate with water from a range of sources such as ponds and wells. Care must be taken to ensure that they do not present a microbial hazard (BAIN and BUSCH, 2004).
8. The presence of these networks did not exclude isolated cooperation with smaller producers (such as machinery or inputs loans), enabled by the manager or technical advisor of these big farms, who, unlike their owners, frequently has a local background.
9. The harvest usually lasts from two to three months, falling to one month in 2008. It is estimated that only in Entre Ríos about 3000 tons were not harvested – from 25% to 80% of production, according to the grower interviewed.
10. The type of contract in effect (either formal or informal) implies that the export company does not buy the product, but provides the marketing services to the producer and deduces the selling expenses from the prices obtained.
11. The evolution of the arrangements between producers and marketing companies has also been verified in other counter-seasonal ‘mature’ productions, as is the case of Chilean grapes. Funding provided by the export firms was crucial for the development of smallholder agriculture in the 1980s, and many producers were incorporated into the system. However, the subsequent reduction in the value of the exported fruit led to the restructuring of companies and a significant increase in the rigor of contractual terms with producers. Consequently, concentration at the farm level increased (MURRAY, 1999).
12. As a key informant of the local government stressed, ‘Citrus in our region began in 1896 and we carry with 114 years in it. Supportive organizational structures began after 80 years of production. Blueberry is in its infancy.’
13. Efforts in this direction were oriented to take advantage of unemployed workers, mainly women, who were beneficiaries of government subsidies. At the request of producers, the Municipality of Concordia and the provincial Ministry of Labour carried forward the actions that led to an agreement allowing workers employed during the harvest to keep their rights to these benefits during the rest of the year. The use of this staff also meant a reduction in the amount of social contributions paid by producers. The local government also launched activities aimed at strengthening the registration of potential workers, and supported the training activities carried out with the technical support of the National Institute of Agricultural Technology (INTA) (CRAVIOTTI and CATTANEO, 2006).

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