Biotechnology and biosafety

Instruments for achieving agricultural competitiveness

A renewed IICA for the new hemispheric dynamic on the 21st Century
Milky ways
to territorial development

Milk can go from being a simple resource to becoming an asset and “activating” a territory, through its transformation into quality products, thanks to the traditional know-how of organized local actors.

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Milk is a social and economic instrument: governments consider it as a basic component of all social programs and producing it provides a livelihood for many families: dairy farmers, cheese-makers and traders, among others. Furthermore, given its importance in nutrition and the risks associated with its manipulation, it is one of the most tightly controlled agro-industries from the point of view of health.

Depending on the final product offered to consumers, milk chains are constituted by very diverse stakeholders: cattle farmers of very different scales, ranging from smallholders to large ranchers with thousands of head of cattle) are mainly concentrated in river basins, but also in specialized territories linked to markets. The technologies employed are also very varied, ranging from rudimentary methods (manual milking in the field and manufacture of fresh curd cheese “at the foot of the cow”) to the most sophisticated techniques (mechanized and computerized milking).

In relation to the territory, and according to its origin and destination, milk may be considered as a generic product or as a specific and/or territorial product. As a specific resource and a territorial

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It is important to address local development issues and the territorial organization of rural activities, and at the same time articulate local and territorial initiatives with other social, economic and political spaces.

Asset, its consistency, quality and characteristics will be intimately linked with the production zones: the territory and its “know-how” will be conditioned by the actors who live there. Thus, an initial link is established between product-territory-stakeholders, which is key in a development strategy.

This article will focus on the linkages between territory, regional development and product, in a pragmatic way, through an analysis of four case studies in Latin America, where the relationship between milk production and territory is central, and contributes to regional development. Analysis of these cases will enable us to consider the lessons learnt, in order to conclude with some strategic proposals.

The cases studied use the approaches of the Localized Agrifood System (LAS) and the “activation of territorial resources (Boucher, 2004). These approaches make it possible to assess and establish strategies to strengthen geographic clusters or concentrations of rural agro-industries (RAI), as in the case of the cheese factories described in this article.

I. Case studies

The development of agrifood systems and the rural world is currently taking place in a complex scenario in which multilateral trade relations, sectoral protection and the economic synergies between the public and private sectors converge with calls for sustainable development, food security and the eradication of poverty. Articulating all these principles is no easy task. In this uncertain context the demands increase, leading us to the following conclusions:

- It is necessary to consider domestic consumption as a way to reduce malnutrition and the growing impoverishment of rural societies, and at the same time concern ourselves with being competitive in the export markets;
- It is important to address local development issues and the territorial organization of rural activities, and at the same time articulate local and territorial initiatives with other social, economic and political spaces;
- It is necessary to respond to the new environmental challenges and comply with the requirements of new international quality standards, and at the same time design strategies to train producers and add value to local resources (products, know-how, businesses, institutions, among others) in order to encourage innovation processes that respond to this new context.

It is also increasingly important to find “homegrown” solutions to this dilemma; replicating or applying existing models and prescriptions does not appear to be the answer. Retrieving and documenting the solutions that campesinos and other stakeholders are developing in different contexts will undoubtedly provide some key elements.

Bearing in mind the above, we present four cases related to the Latin American dairy sector that may provide lessons on ways to add value to resources within a territory as focal points for development.
Cotija cheese (from Mexico) is produced in a region located at an altitude of 700-1800 meters above sea level (masl), with an average rainfall of 900mm, which falls from July to October. This allows the region to enjoy a temperate climate during the summer, with temperatures no higher than 25°C, and a relative humidity that never falls below 80%. These conditions favor milk production during the rainy season, together with the manufacture of cheese, both because of the quality of milk, which is rich in fat, and because of the climatic conditions necessary for its maturation.

Cotija cheese takes its name from the town where it is sold. It is made in isolated farms or ranchos in the mountains of the Sierra de Jalmich, an area that can be reached after a 3 to 5 hour journey from Cotija in a four-wheel drive vehicle. The cheese-making process begins with the production of good-quality highland milk. To make a piece of Cotija cheese requires 20-22 kilos or 200 lt. of milk, equivalent an average day's milk production by a dairy farming family. Farmers use natural and improved highland pastures as well as a system of extensive ranching (5 hectares per cow). Average annual production, which is seasonal (from July to October), is one ton of cheese per family (with variations from 0.5 to 2.0 tons).

The cheeses are cylindrical in shape and measure 40 cm in diameter. Demand currently exceeds the supply, for which reason the price is relatively high. Producers can sell a kilo for 75 or 80 pesos (2005 figures) - equivalent to 7.5 pesos per liter of milk paid to the producer - when the price varies between 2.4 and 3.4 pesos (10.5 Mexican pesos are equivalent to one US dollar). These prices explain why farmers in the nearby basins produce a cheese that is sold under the name of Cotija, taking advantage of its reputation.

The main distribution channel for the cheese is through Mexican migrants in the United States (80%). Buyers visit the two or three stores located in the town of Cotija or obtain it through intermediaries. It is also sold in the markets of cities such as Guadalajara, Morelia and Monterrey.

There are 92 producers in the area, grouped in the Regional Association of Producers of Cotija Cheese. This association was founded in 1998, when some researchers offered to help producers improve the quality of their cheeses and obtain a denomination of origin. The project began with five producers, but soon all the farmers in the area joined in. They hoped to obtain a denomination of origin to protect their product and its reputation, and also to open up new markets.

Due to the geographical conditions, it has been difficult for these producers to organize themselves and communicate with each other. These problems are caused by the remoteness of the farms and the poor road infrastructure, which means that the group meets only two or three times a year. The association’s main achievements are:

- The creation of the Cotija Cheese Fair, which is held once a year in the month of November and enables members to sell a good part of the production.

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3 Summary based on documents prepared by Patricia Chombo Morales, Esteban Barragán López and Ruben Alvarez Barajas.
A collective trademark was obtained at the beginning of the year, with the support of researchers (Colegio de Michoacán and CIATEJ).

Cotija cheese has certain special characteristics pertaining to products with denominations of origin: a history, a culture (ranch culture), a specific territory (the Sierra Jalmich), local know-how with deep territorial roots and a reputation. In March 2005, the Association obtained the collective trademark of Cotija Cheese Region of Origin from the Mexican Industrial Property Institute (IMPI), which could eventually become a denomination of origin. However, the IMPI considered that an application for a denomination of origin was still premature and that the producers’ organizational level was not sufficient for the moment. Another factor is the need to provide assurances of a certain standard of quality in order to obtain the denomination of origin.

Despite the recognition, there are still many challenges to overcome: problems of quality (guaranteeing certain standards) must be resolved if producers wish to safeguard the reputation of “Cotija cheese” and its markets, thereby retaining the benefits they enjoy at present.

An example of this struggle is Jose, a farmer with 146 hectares of land on which to graze his 35 cows; he uses 2 or 3 hectares to grow maize - the basic staple for Mexican families - for his own consumption.

His income comes from the sale of 1.5 to 2 tons of Cotija cheese (depending on the year), which represents 112,500 to 150,000 Mexican pesos (at a price of 75 pesos per kilo). He also obtains between 40,000 and 48,000 Mexican pesos for the sale of 12 calves. This represents an estimated income of 152,500 to 200,000 Mexican pesos, equivalent to US$15,000 or $20,000 (2005).

Jose’s case shows the importance of dairy farming in a remote area of one of Mexico’s poorest states (with the fourth lowest ranking in Mexico’s Human Development Index after Oaxaca, Guerrero and Chiapas). It also underscores the need to add value and protect the links that exist between a product and its territory of origin.

Several instruments make it possible to develop this association:

- **A collective trademark** is a distinctive sign used to distinguish the goods or services provided by members of an association or group from the goods or services provided by third parties. This sign or symbol is placed on a product to show that it has been made by a specific group of people in a particular region, guaranteeing its authenticity and quality to consumers.

- **Geographical indications and protected geographical indications**, are signs used to designate products that have a specific geographical origin and possess qualities or a reputation that are specifically due to that place of origin (World Intellectual Property Organization-WIPO definition).

- **A denomination of origin** refers to a product’s geographical region of origin and to its distinctive qualities or characteristics that are exclusively due to geographic conditions.

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4 Interview carried out by the author at Jose’s farmhouse in May 2005, during a tour of the Sierra Jalmich.
including natural and human factors (Industrial Property Law of Mexico).

These symbols can be converted into a development strategy, in which the territory is the central element that adds value to a product. This gives consumers confidence about the product’s authenticity and its characteristics, and enables producers to charge a higher price justified by the geographic and cultural specificities “embedded” in the product, and also by the production methods, traditional know-how, and adherence to quality and environmental conservation standards.

The Turrialba Cheese Route in Costa Rica

The design of the “Turrialba Cheese Route, of Costa Rica” is an example of a way to add value and diversify a region’s cheese-making activities in association with its tourism resources. It is the result of a series of initiatives by local milk and cheese producers and several institutions aimed at strengthening local cheese production and diversifying the community’s income-generating activities.

The cluster of rural cheese factories in Santa Rosa de Turrialba lies to the northeast of the capital of the District of Turrialba (Province of Cartago), where the Turrialba Volcano rises from Costa Rica’s Central Volcanic Cordillera. Its slopes form part of a mountainous area with fertile soils of volcanic origin and very steep topography, conditions that have allowed a dairy culture to flourish for more than a century.

This district covers an area of approximately 127.40 Km², has 3,274 inhabitants and altitudes ranging from 900 to 3200 masl; the average temperature is between 10 and 19°C, with an annual precipitation of 3000-3500 mm and a relative humidity of 85%. From the point of view of production, the area has large, medium and small-scale dairy farms, but the latter are the most numerous and traditional (current average 7 Ha). Local milk and cheese production has recently been diversified to include sub-products with a longer shelf life (aged cheeses and natilla or sour cream). In the past, the poor roads prevented farmers from taking their milk to the industrial plants and so they were forced to make cheese, which has become a more profitable alternative than the direct sale of milk. For this reason, cheese continues to be the most important product from the economic point of view. It is estimated that 70% of the fresh cheese that is popularly consumed in the country comes from the area surrounding Volcan Turrialba.

This economic activity has been determined by the region’s specific resources - soil, pastures, altitude, climate and temperatures. Altitude, in particular, has been a determining factor in the distribution of crops, with sugarcane and coffee planted in areas up to 900 meters and dairy farms located above that altitude. These characteristics translate into strategic territorial resources that favor cheese production. Furthermore, notable improvements have been made in the dairy breeds, the pastures, and in the specialization and quality of the area’s milk products.

This area also has the resources of landscape and scenic beauty: its mountains afford a view of much of the Turrialba Valley and the peaks of the Talamanca Range. Moreover, the area’s dairy farming and cheese-making activities take place on the slopes of the volcano, which itself constitutes a resource of enormous value for tourism.

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5 Summary based on documents prepared by Maricela Cascante, Marvin Blanco and Hernando Riveros.

Within the territory, there is a high level of communication and close ties among stakeholders, together with a common culture shared by the inhabitants and their neighbors who have developed a strong sense of “belonging” linked to the territory. This culture provides the basis for disseminating information, strengthening cooperation and the internal activation of the system. The relationships established between the main actors and other stakeholders create a social capital that is expressed in their collective actions, information and innovation processes and social networks. These elements reflect the presence of phenomena derived from proximity, expressed in the search for common technical and organizational solutions by the cheese factories and dairy plants and the endogenous growth of the Localized Agrifood System (LAS), based on the externalities of human capital and mutual trust. In fact, the search for information and knowledge begins within the family circle and among friends; in fact, this is the most widely used medium for disseminating the few available “innovations” and local “know-how”.

The collective actions implemented by the actors of this rural cheese production cluster include both formal and informal actions. Formal collective actions are consolidated in organizations such as the “Agricultural Producers Association of Santa Cruz de Turrialba (ASOPROA)”, which bring together a large number of dairy farmers and cheese plant owners with very specific common objectives. There are also more spontaneous collective efforts, which have gradually been formalized, such as the Agro-tourism Network, the Organizing Group of the Cheese Expo-Fair (which has been held since 2002), and the group negotiating a geographic identity seal for Turrialba cheese.

As a result of these collective actions, a Turrialba Cheese Route is being designed for tourists, which includes a guided tour along the roads and lanes of Santa Cruz to visit farms and cheese plants. The route is based on cheese production and offers visitors recreation, accommodation, the experience of living in the local culture, good food and handicrafts.

This case study shows us that it is possible to combine and add value to a whole set of natural resources (volcano, landscape, rivers, animals) and agro-industrial activities (dairy farms, small-scale cheese factories, the reputation and tradition of the cheese) along with the region's infrastructure and services (road network, tourism services and communications).

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7 Summary based on documents by Luis González and FUNORSAL.

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The rural cheese factories of Salinas de Guaranda in Ecuador

The case of the rural cheese factories of Salinas de Guaranda, in Ecuador, is one of the most successful initiatives and is often used as an example of rural agro-industrial clusters in Latin America.
America. The process to activate the territorial resources of the Parish of Salinas, in the province of Bolivar, began 30 years ago when this poor community located in Ecuador's central highlands joined forces, for a common purpose, with some Salesian priests, particularly Father Antonio Polo, and a Swiss cheese-maker named Jose Dubach.

Salinas is a civil parish located in the central region of Ecuador (Bolivar Province), at an altitude of 3,560 masl. and with an average temperature of 10°C. The area has around 11,000 inhabitants, the majority of indigenous origin (80%).

After an initial learning process, production began at the first cheese factory, “El Salinerito”, in the town of Salinas, in June of 1978, using artisanal technology from Switzerland. At the beginning, the plant processed just 53 liters of milk per day, delivered by five producers. The next step came a month later with the opening of the first shop specializing in the sale of cheeses, the “Tienda Quesera de Bolivar” in Quito.

The first phase of this process was the rapid development of a community cheese production project on a national scale, based on “El Salinerito”. Nowadays, around seven million liters of milk are processed each year in 70 rural cheese plants, employing 120 trained workers and benefiting around 1,200 farming families. The project has its own distribution network that includes the “Tiendas Queseras de Bolivar”, where the cheeses are sold to the public, as well as supermarket chains, delicatessens and neighborhood stores.

Since its origins in the 1970s, the cheese production project has been the backbone of the entire system, achieving financial viability and being capable of sustaining itself over time. But it has also activated a local development process based on community spirit, collective efforts and the re-investment of the benefits in social and productive infrastructure with the creation of a series of business enterprises. The cheese factory, which became the area’s first clearly profitable activity, has generated employment, promoted comprehensive development and has boosted production by increasing milk prices, enabling farmers to make investments to improve their livestock.

The Parish of Salinas currently has 27 dairy processing plants, a wool spinning mill, four handicraft workshops (working with sub-tropical woods, walnut and ivory palm), a carpentry workshop, five textile plants, two sausage factories, six mushroom drying plants, four turron (nougat) factories, a jam factory, a chocolate factory and other small businesses producing baked goods, biscuits, noodles and other everyday food products consumed locally. The parish also has a collection and storage center, six fish farms, the hotel “El Refugio”, a community guest lodge, a tourist information center and a savings and credit cooperative, among other enterprises.

The success of this region’s development lies in the consolidation of a community organization process, through the Fundación de Organizaciones Campesinas de Salinas- FUNORSAL, a second-tier organization that brings together the parish’s 25 communities with the support of a church organization and of the FEPP, a foundation that promotes rural development at national level. But the process of transforming milk into a very varied range of fine cheeses, creating high value added, has also generated resources to finance social infrastructure works and new business ventures. The third element of success is found in what we might term community spirit, the social capital of local communities, which has provided the necessary social cohesion for collective actions.

As result of all this activity, the National Consortium of Rural Community Cheese Factories was created, made up of 70 cheese plants, all of which emerged as a result of the enormous social, economic and technical impact of Salinas’ first

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8 In Ecuador, a parish is an administrative division equivalent to a municipality or a city council.
9 Andean, Danbo, Tilsit, Gruyere, Parmesan, Mozzarella, Provolone, smoked Provolone, Asiago, Camembert, Fondue and cheese with herbs.
cheese plant. The interesting aspect of this case is the network of links that has developed among the stakeholders:

- Within the communities, farmers join together in producers’ organizations.
- Within these same communities, milk producers unite around the local cheese factories.
- The communities, with their local producers’ associations and cheese factories, are articulated and coordinated with each other through FUNORSAL, and through cooperative mechanisms such as savings and credit cooperatives.
- Other community enterprises are also linked to FUNORSAL, which has become the hub of the system.
- The cheese factories are articulated and coordinated through FUNORSAL in Salinas, but also at national level through the National Consortium of Rural Community Cheese Factories.

All these characteristics define this multidimensional system in Salinas as a complex Localized Agrifood System (LAS), generated by a development project, based on collective actions at various levels and coordinated by FUNORSAL. Luis González summarizes the system's success in five points:

1. Placing greater value on organization as a starting point for launching new initiatives.
2. Creating new productive enterprises, taking advantage of the area’s many natural and human resources.
3. Developing new marketing strategies, based on the image of a product that is accepted and well positioned in the market: Quesos “El Salinerito”.
4. Forming consortia, bringing together producers from different areas, according to their products.
5. Creating new sources of employment, generated by the major expansion in production implemented in various communities, mainly in the urban zone of the parish.

The most important results achieved in Salinas have been: the improvement in the population’s quality of life; socioeconomic development based on solidarity; halting the migration of young people; job creation; improved eating habits and nutrition; reforestation; and the development of a livestock production model.

The rural cheese dairies of Cajamarca

The department of Cajamarca, in northern Peru, is one of the country’s poorest regions and has a large rural population (75%). It is one of Peru’s

10 Marketing coordinator of the Foundation of Campesino Organizations of Salinas, FUNORSAL.
main dairy basins, covers an area of approximately 20,000 km² and is the only one with a large cluster of rural cheese factories. At the beginning of the nineteenth century, the presence of large numbers of dairy cattle in the region encouraged the production of homemade cheese using rudimentary techniques, and gave rise to the traditional mantecoso cheese. In the mid 1940s, the Nestlé factory established itself in the region, boosting local milk production and marking the beginning of a small-scale cheese industry for commercial purposes.

There are currently around 500 small-scale cheese factories that produce creamy curd cheese, fresh cheese and Andean “Swiss type” cheese. These are concentrated around the city of Cajamarca and middle-sized towns such as Bambamarca, Chota, Cutervo and Agua Blanca. Almost 80% of the region’s cheese production is exported to markets on the coast; the rest is distributed mainly in the city of Cajamarca, and is generally sold to tourists.

Three local cheese production chains make up the system: 1/ quesillo-mantecoso or fresh curd cheese, 2/ Andean Swiss-type cheese and 3/ fresh cheese. These production chains are characterized by the links existing between the different actors (milk and curd cheese producers, middlemen, rural and urban cheese-makers and traders) and their upstream and downstream linkages, organized by products, which differ considerably according to their origin, history, know-how, identity, image, and localization.

This geographic clustering of cheese factories developed strongly during the 1990s, when a series of structural reforms and adjustments in public and private companies were implemented in Peru, creating high levels of unemployment. Thus, the cheese factories initially provided job opportunities for Cajamarca’s cheese-makers, some of whom even had a university education. These “entrepreneurs”, who simultaneously became cheese-makers-businesspeople-traders, have turned Cajamarca into a thriving marketplace thanks to their dynamism, creativity and market knowledge.

In 1999, a group of cheese-makers and traders banded together to form the Asociación de Productores de Derivados Lácteos (APDL), a dairy producers’ association, in order to tackle the growing fraud that was affecting the reputation of Cajamarca’s dairy products and to resolve the difficulties in marketing their products on the coast. With the changes stemming from globalization, the APDL has had to deal with a number of situations, particularly the following:

- Increased demands for quality by consumers. Producers have responded by maintaining the historic and traditional identity of their products, while also guaranteeing an optimum level of quality, especially in relation to health aspects, through the creation of a collective trademark.

- The increase in cheese imports, particularly those from Argentina and Europe, which compete directly with Cajamarca cheeses in the capital, Lima.

- Competition with transnational companies that introduce their dairy products into the Cajamarca market at lower prices. This competition translates into an accumulation of milk, given that Cajamarca is, by its own estimation, the leading dairy basin in Peru.

- Competition with other local producers, who reduce the incomes of APDL producers using unfair practices (such as fraud and informal sales), but also undermine the reputation of Cajamarca cheese.

- The search for new markets due to the saturation of local ones. This has led to efforts to penetrate the supermarkets. However, the APDL producers have not fully succeeded, due to the strict requirements related to quality, rotation of inventories and payments. The producers’ first reaction was an attempt to open their own store at the Cajamarca airport, with the help of development projects.

Given the slow pace of the results, some cheese-makers belonging to the APDL decided to operate individually once again, with varying outcomes.
This jeopardized the organization’s initial results: the formation of the Association itself and efforts to obtain the collective trademark, “El Poronguito”.

Faced with this situation, and in response to the persistent threats to Cajamarca’s rural cheese industry, a process began to coordinate all the actors in the system. This led to the creation of CODELAC (Coordinadora de Derivados Lácteos de Cajamarca) in 2002, a platform for the coordination of all the actors involved in cheese production, including the different APDL members, but also the committee of quesillo (fresh curd cheese) producers, NGOs, public institutions and service providers. CODELAC has rapidly become a space for exchange and negotiation, enabling producers throughout the production chain to discuss their problems, and in which NGOs can exchange information on projects, in pursuit of common goals.

CODELAC is currently undergoing a process of consolidation, but its first achievements include: the creation of a space for the different actors to discuss the quality of their products and reach agreements on how to improve them in a coordinated and effective manner; the creation and promotion of a sales module at the airport with nine cheese producers; and advisory services to cheese factories, among others.

The geographic concentration of Cajamarca’s rural cheese dairies has the characteristics of a Localized Agrifood System at an advanced stage of activation: here we find evidence of a territory associated with actors and products that are typical, with a long tradition and based on local know-how. While the collective actions are still incipient, they are also promising and reflect the phenomena of “cooperation-competition” at the horizontal level, but with strong asymmetries in the vertical relations between actors, mainly in the area of information (Akerlof, 70; Stiglitz, 98).

It has been shown that the implementation of “collective actions” in a Localized Agrifood System allows producers to transform their passive advantages into active advantages. However, based on this case study, we can affirm that creating an association and obtaining a trademark are necessary but not sufficient conditions to achieve effective results. In fact, it is necessary to have a true “activation” process, in which the stakeholders are involved in a participatory manner, forgetting about their individual strategies.

The challenge facing the actors in a Localized Agrifood System (LAS) is to ensure that their collective actions serve to address the difficulties caused by contextual changes. Therefore, as a priority, collective actions should be designed to strengthen and take advantage of the region’s specific resources - tourism, excellent pastures for cheese production, good quality products with a long tradition, the image of “good cheese from Cajamarca”, the added value of local know-how - thereby responding to consumers’ expectations of good products at accessible prices.

The case of the rural cheese dairies of Cajamarca (Correa et al 2006, in this same document), has shown how the dairy sector has been able to consolidate itself thanks to an activation process implemented in several stages, each one to confront threats. The LAS was constructed progressively: firstly through ongoing efforts to strengthen all the system’s stakeholders and to develop “structural collective actions”, e.g. producers’ associations such as the APDL. Secondly, through the implementation of “operational collective actions”, e.g. collective trademarks such as “El Poronguito”, and thirdly, through the creation of a mixed or hybrid coordination mechanism with all the stakeholders, e.g. CODELAC.

This case has been used to further develop the study of rural agro-industrial clusters (RAI) that utilize the approaches of the LAS and the activation of territorial resources. It has also helped to define the different stages through which these
clusters pass, in what has been termed the “LAS cycle”, making it possible to define a methodology to accompany the activation of a system.

II. Lessons learnt

The four cases outlined above highlight the role of milk as a specific resource that can be used to generate a territorial and regional development process. A first analysis is based on a comparison and understanding of the different elements of these systems (see Table).

Based on the above, we summarize some of the lessons learnt:

**Milk as a specific territorial resource.** Although milk is normally a generic product of mass consumption, under certain circumstances it may be considered as a specific resource and may provide the starting point for an activation process. Activating this resource may result in a series of “specific” products, such as traditional cheeses and other products that are recognizable to consumers. To be a specific resource, milk must have certain characteristics that will give the finished products their special qualities, identifiable by consumers. These specific characteristics are related to the type of cow that produces the milk, its diet, the type of pasture and the geo-climatic conditions.

**Milk as an element of a “basket” of specific resources of a territory.** Within a territory we can find a basket of goods and services derived from specific resources. Although milk is the central element, it may be accompanied by other products that reflect the “homeland”, the climatic conditions, local know-how, human capital, the reputation of certain products, but also the territory’s natural beauty, landscapes and archaeological remains, among others.

**Milk and the activation process of a territory.** In the four cases described, milk has been processed or “activated” through dairy products, such as traditional cheeses with a certain reputation. But these efforts have generally been made by individual producers (except in the case of Salinas), and do not guarantee producers a market presence. In addition, they may encounter fraud and the competition of imported products. We can see, then, that in a territorial activation process, milk is not a sufficient element in itself, but needs to be inserted within a collective process to activate the territory.

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<th>Cajamarra</th>
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</table>

1 DOC: Denomination of origin
Activation as an articulating process. The cases studied confirm that the activation process is based on the dynamic articulation of milk as a specific resource, with the territory’s reputation, history, local know-how and with actors capable of self-organization.

Instruments of the process. In the cases studied a series of instruments were used:

- Seals guaranteeing territorial quality such as collective trademarks, denomination of origin, geographic indications.

- Collective actions with their respective levels of collective structural actions (organizations of producers, cheese makers, traders) and operational collective actions, such as collective trademarks, plus the different stakeholder coordination mechanisms (FUNORSAL of Salinas and CODELAC of Cajamarca).

- A multifunctional vision of a “basket of goods and services”, making it possible to offer and articulate a territory’s different products and services, along with different types of tourism alternatives with the participation of local stakeholders (the Turrialba Cheese Route).

The above elements have been an important part of the actors’ strategy: they have utilized the activation of territorial resources (milk), the complementary nature of their activities, and different levels of coordination, which together generate a type of collective efficiency.

III. Strategic proposals

In a context defined by globalization and the pressures of external competition, an answer emerges for a type of regional development based on a “local vision”, which places emphasis on the links between a territory and its products.

An example of this - and one that we have tried to highlight in this document- is the case of milk, through its byproducts: these have characteristics (production, organoleptic aspects, quality) that are closely linked to a territory and its actors, and could therefore become the focal point of a local development plan.

One application of this has been studied in Localized Agrifood Systems (LAS), where the territory is understood as a set of actors and/or as a space where very close ties exist between the inhabitants and their territorial roots, something that could be termed “homeland-heritage” or also “Local Innovation System” (Boucher, 2003).

We have described various cases in which milk is the central element of a process to activate a group of rural agro-industries that form part of a Localized Agrifood System. In the face of the adversities generated by open markets, a lack of income, and the struggle to remain or insert themselves in markets, producers have sought to organize themselves in order to obtain collective benefits, confront difficulties and insert themselves into a mixed coordination model, in which producers interact with each other but also with public and private institutions. In the final analysis, as we have seen in the four case studies on the collective development of a territorialized resource associated with quality, basing a local development process on a product such as milk rests on; collective trademarks, quality seals and denominations of origin.

The cases described above could provide new elements to consider in rural development. Firstly, there is the new role of the “multifunctional” rural agro-industries. We have seen that the importance of rural agro-industries is not solely economic - these enterprises can also contribute to social development, to the environment, etc. A second element is the new role of local governments in the process of adding value to and protecting territorial resources, and also in creating an environment in which productive activities can flourish (roads, protection from unfair competition). Finally, the new role of Localized Agrifood Systems in the process of activating territorial resources also has a multifunctional character.
Bibliography


