

Martine Dirven  
*Agricultural  
Development Unit*

# Dairy Clusters in Latin America in the Context of Globalization

**ABSTRACT:** The milk clusters in the Latin American countries studied share key characteristics in their patterns of development in the 1990s, in particular the rising importance of multinationals and large domestic firms in the processing and distribution segments of the milk products chains. This tends to reduce reliance on and transactions with smaller domestic firms in the milk industry, and induce intra-industry concentration and shifts toward use of more capital-intensive technology as well as shift of activity toward urban centers.

## INTRODUCTION

An important rural development policy issue in Latin America is whether the promotion of clusters is a sound path to efficient and equitable development. To address this issue for the milk products sector, the United Nations Economic Commission for Latin America and the Caribbean undertook research on milk clusters in Chile (Dirven and Ortega, 2001), Colombia (Suarez, 2000), Uruguay (Vaillant, 2000), Argentina (Ministry of Economy, 2000), and the Netherlands (Enzing and van Dalen, 1998). The Netherlands was added as a case of a developed milk cluster with a full range of production (input-output) linkages. The paper presents findings from a comparison of these recent field studies. A cluster is broadly defined as the entire range of input-output linkages in production of and transactions in goods and services. The actors in the cluster include private as well as public (scientific, educational, financial) institutions

**Table 1.** Development Stages of the Milk Clusters in Argentina, Chile, Colombia, Uruguay, and The Netherlands

	<i>Stage I</i>	<i>Stage II</i>	<i>Stage III</i>	<i>Stage IV</i>
<b>1. EXPORTS</b>	<b>Unprocessed natural resources</b>	<b>First processing level</b>	<b>More advanced/specialized processing</b>	<b>Investment abroad</b>
		Argentina, Colombia, Chile	Uruguay, Netherlands	Argentina, Chile, Netherlands
<b>2. INPUTS</b>	<b>Imported</b>	<b>Import substitution of main inputs</b>	<b>Exports of inputs</b>	<b>Exports of sophisticated inputs</b>
	Argentina, Chile, Colombia, Uruguay	Argentina, Chile, Colombia, Uruguay	Netherlands	Netherlands
<b>3. MACHINERY</b>	<b>Imported (local repair)</b>	<b>Production for the local market under foreign license</b>	<b>Exports of basic machinery to unsophisticated markets; development of more specialized equipment</b>	<b>Exports of all kinds of machinery to sophisticated markets</b>
	Argentina, Chile, Colombia, Uruguay	Argentina	Argentina	Netherlands
<b>4. ENGINEERING Production</b>	<b>Semi-imported</b>	<b>National</b>	<b>National</b>	<b>Exports</b>
	Argentina, Chile, Colombia, Uruguay (modern)	Argentina, Chile, Colombia, Uruguay (artisanal)	Netherlands	Netherlands
<b>Project design</b>	<b>Imported</b>	<b>Partially national</b>	<b>National</b>	<b>Exports</b>
	Argentina, Chile, Colombia, Uruguay (modern)	Argentina, Chile, Colombia, Uruguay (artisanal)	Netherlands	Netherlands
<b>Consulting</b>	<b>Imported</b>	<b>Partially nacional</b>	<b>National</b>	<b>Exports</b>
	Argentina, Chile, Colombia, Uruguay	Argentina, Chile, Colombia, Uruguay	Netherlands	Netherlands

Source: Author, applying case study information to diagram in Ramos (1998).

involved in input provision, primary production, processing, and distribution. The study of the cluster includes attention to the types of actors involved, regarding their location, relations, sources of information, learning processes, types of associations, and joint actions.

The milk products subsectors differ over the case study countries of Argentina, Chile, Colombia, and Uruguay, with respect to their agroclimatic contexts, technologies used, past development paths and policies applied to them, and to the present state of their development (Table 1). Milk volume and yield and

consumption differs over the countries. Total milk production in 1999 ranged from 1.5 million tons in Uruguay to 9.8 million tons in Argentina. Average yield per cow ranged from 1020 kg in Colombia to 3990 kg in Argentina in the mid 1990s. Per capita milk consumption (in all forms) ranged from 136 L per year in Chile to 240 L in Argentina. The milk products trade surplus in 1999 ranged from a surplus of U.S.\$ 335 million in Argentina to a deficit of U.S.\$ 3 million in Chile. Growth of milk output has been high (around 4% or more) in the 1990s in all four countries. The average producer price ranged from 0.33 U.S.\$/L in Colombia to 0.17 U.S.\$/L in Uruguay, with the variation reflecting differences in the range of factors noted above.

It is relatively rare in the food-sector clusters literature to compare clusters over countries, let alone to compare changes in the nature of the clusters over time. Given that the four Latin American case study countries have such different milk economies, and yet have in common that all four countries' economies have undergone rapid globalization and policy reform (market liberalization), we expect that common changes in clusters are because of those shared market and policy conditions. This paper thus compares the clusters in terms of their present nature and changes in them over the 1990s.

The paper proceeds as follows. Section 2 discusses the influence of location and mix of actors on milk cluster characteristics. Section 3 analyzes the weakness in intracluster linkages in most of the Latin American milk clusters studied. Section 4 discusses the effect of that weakness, as well as the newly competitive context of the 1990s, on small firms and farms in the subsector. Section 5 notes some exceptions to the general trend of exclusion of small and medium domestic firms. Section 6 concludes.

## **LOCATION AND MIX OF ACTORS INFLUENCE CLUSTER CHARACTERISTICS**

In all four study countries, the nature of production linkages in the subsector depends on location. Linkages tend to increase the nearer one is to urban areas. Milk has a high water content and is bulky, which makes milk transport costs relatively high. In an unprocessed state, milk is highly perishable. Thus, milk production has tended to develop near consumption centers, and most urban areas have a milk production area nearby. As von Thunen's theory predicts, and as one finds in practice in dairy production in Latin America, as one approaches urban areas, land prices increase and farms are smaller and use nonland inputs more intensively relative to farms further from cities. Yields per cow tend to be higher and more consistent over the year, but costs tend to be higher, which have to be matched in higher producer prices and thus input prices for plants. It should be noted that over the past decade, new rural roads have been built and existing ones improved, and there have been advances in cooling technologies that have tended

to extend the typical catchment area for plants near urban areas and to spur the development of new dairy production areas further from urban areas.

The consistent supply from dairy farms, plus the relatively good road network that tends to be found nearer cities, allow a large catchment area (relative to that of a typical plant in a rural hinterland area), and allow a sufficient supply for year-round operation of relatively large processing plants. Moreover, the better road network found near urban areas favors the production and marketing of fluid milk and the more perishable (but also higher value-added) products such as yogurt and fresh cheese.

The corollary of the above is that in general in Latin America, dairy farms in more rural (hinterland) areas tend to be more extensive (more land using and less intensive in labor and other inputs), have lower yields and per unit costs, and have sharper seasonal fluctuations in milk output. Combined with poorer roads in the hinterland, these factors imply lower milk prices on the one hand, but greater costs and less even flows of supply on the other hand, for dairy processing plants in the hinterland. Moreover, the composition of dairy products in the hinterland differs from that nearer urban areas—there is a tendency toward production of powdered milk and longer ripening, commodity-type cheeses, because of the higher fat content of milk cows raised on pastures, and because milk is relatively cheap and thus the coefficient of milk in the production of processed milk products can be higher. The types of variable inputs, machinery, packaging, and logistics required for these products differ from those required to make the fresh and semiperishable products produced nearer urban areas.

The above points need to be understood in the context of the substantial heterogeneity of firms involved in the sector. There is a wide range of farms, processing firms, and distributors. The farms range from small to large. The processors range from multinational firms that deal in high volumes and a broad range of products, use modern capital-intensive technologies, sophisticated packaging, transport, bar codes and other means of tracking consumer and retailer buying patterns—to small informal sector firms, dealing in small volumes, using traditional technologies, and with relatively poor production efficiency, packaging, and quality control. Retailing firms range from small informal shops in rural areas to supermarkets in rural towns, intermediate cities, and large urban areas.

There is, however, some correlation between location and firm size in general. Porter (1998) observes that in developing countries, the largest enterprises and the clusters around them tend to concentrate in or near the largest cities because in the other areas there is a serious lack of the minimum required infrastructure, institutions and suppliers. This observation in fact applies to many of the upstream activities in the milk clusters in Latin America (e.g., equipment manufacture and engineering firms are located near or in cities) as well as the headquarters of multinational and large domestic milk products companies. Thus, some multinationals such as Nestlé have headquarters in large cities but locate processing

plants in the intermediate cities and towns in the milk production areas, and provide technical and sometimes financial assistance to promote development of dairy production and productivity in their catchment areas.

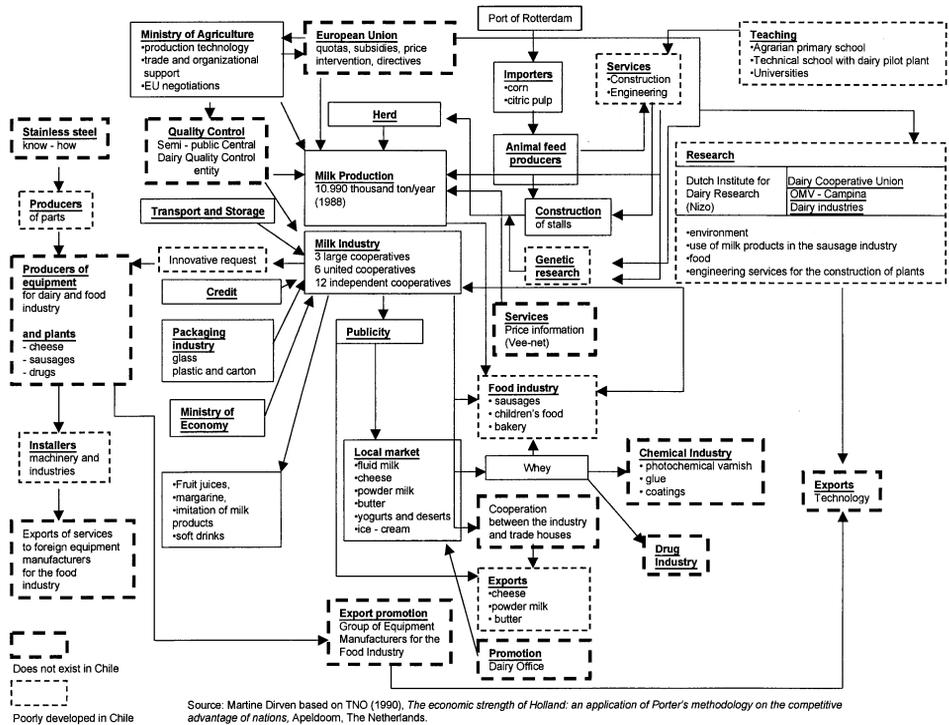
## WEAKNESS OF DOMESTIC LINKAGES IN LATIN AMERICAN MILK CLUSTERS

In Latin America, despite the importance of some milk producing areas, input-output links among firms and farms in clusters tend to be weak at the national and even the local level. The input manufacture, equipment design and manufacture, and even the processing industries are relatively underdeveloped. The input-output data for Uruguay, for instance, show that the typical Uruguayan dairy farm buys much more of its input from domestic firms whereas the milk processors import most of their nonmilk inputs; by contrast, milk processors in Argentina buy a much greater share of their nonmilk inputs domestically as compared to their Uruguayan counterparts. That explains why the domestic backward linkages of Uruguayan (as well as Chilean and Colombian) milk processing are relatively weak and those of Argentina relatively strong. Of course, the substantial industrial base of Argentina permits the latter.

Liberalization (implying opening to the outside, or *apertura* that was part of the structural adjustment programs and GATT accords) and globalization have driven four important changes in the subsector: (1) the rapid growth and modernization of dairy farms and firms; (2) the outsourcing of (usually noncore) rather than own-production of inputs and services; (3) new milk product standards (food safety, quality, environmental) and other requirements in packaging and product homogeneity; (4) greater competition.

Modernization and outsourcing have, not, however, tended to cause a build-up of upstream domestic linkages (purchase of inputs from domestic firms) in the milk products clusters. In fact, the opposite has tended to occur, with an increase of sourcing of inputs as well as technical knowledge from global markets and foreign sources. That has meant a relative declustering effect. To illustrate and underscore the relative lack of production linkages in the Latin American clusters, Fig. 1 compares the case of Chile to the more fully developed milk clusters in the Netherlands, where there is a much richer network of input-output and institutional linkages. Observe that relative to the case of the Netherlands, the Chile cluster has fewer linkages to domestic production of machinery, variable inputs such as veterinary drugs and other chemicals, as these inputs tend to be imported.

There are several reasons for this. First, liberalization brought exposure both to foreign investment (and thus, the massive ingress of multinationals in the milk sector) and an increase in trade and other vectors of exposure to global change in the agrifood economy (with a rise in the importance of supermarkets and fast food consumption, product diversification, and advertisement). These foreign compa-



Source: Martine Dirven based on TNO (1990), *The economic strength of Holland: an application of Porter's methodology on the competitive advantage of nations*, Apeldoorn, The Netherlands.

**Figure 1.** Linkages in the Netherlands and in Chile.

nies had and have a tendency to source equipment, information, and variable inputs from the global market and from their headquarters abroad.

Second, there tends to be a lack of common strategy among the actors in the clusters because of extreme heterogeneity in farm size, climatic conditions, technology use, and farmer education. For example, in Chile, the average milk farm has 12 cows, but the largest milk farm has 18,000 cows. In Colombia, as in other Latin American countries, part of its milk production takes place in subtropical zones on farms producing livestock for both meat and milk, using extensive production technologies, with low costs and very low yields per cow.

Third, there tends to be little sharing of information among cluster firms and farms. This is so even in the case of cooperatives, where one would expect the most cohesion and information sharing. Of course, the data showed that many cooperatives do hire technical personnel and publish bulletins to provide assistance to member farmers (as do many milk processing firms) and there is a trend toward cooperatives' providing group technical assistance for their farmers (but so do many private milk factories). Yet the case studies did not provide much evidence of interfarmer information flows within the cooperatives. An exception to the latter point was found in the Province of Santa Fe in Argentina where

SanCor was founded in the 1930s. SanCor is the largest Latin American milk cooperative and now operates as a multinational. In fact, among the case study countries, this Argentine province provides the only case where a complete cluster, with strong domestic linkages and group cohesion, was found. This cohesion, defined as trust, information sharing, and commercial collaboration, is partly because of the shared background of the region's population (most are from the same region in Italy).

The reason for the weakness of collaboration and information sharing in many Latin American milk clusters is that most milk clusters are composed of numerous small farms and firms, operating in the informal sector and selling to the local market, what Altenburg and Meyer-Stramer (1999) term "survival clusters." The degree of cooperation among these firms tends to be low, reflecting a rather fragile social fabric usually unconnected to the formal business community. Although these groupings of firms are a long way from "ideal" clusters, they nevertheless do have positive externalities, such as information spillovers as to suppliers, marketing, product design, semiqualfied labor and contact with the product or service since childhood. Inputs and machinery are easy to get at because suppliers, responding to demand, tend to install sales points nearby. Transaction costs when selling tend to be low because, once the locality has gained some reputation, intermediaries come to fetch the product.

Fourth, domestic linkages are weak because there appears to be a widespread notion that "foreign is beautiful." That notion leads not just multinationals, but even domestic firms to look to the foreign market for information on new technologies, and variable inputs and equipment supplies. The falling demand for local services and equipment has caused many small, local machine and tool makers, as well as technology or university research centers focused on milk, to lose ground (see Stumpo, 1998). There is a "chicken or egg" issue here, as in the countries studied (except for Argentina) there are now indeed few local firms that are creating or adapting milk-related technologies, or that are specialized in providing inputs. (In the next section we note some recent exceptions, such as Termec in Chile.) Did the scarcity of local input and information supply drive large firms to look abroad for help? Or did their looking abroad cut the supports from under the domestic input and technology industry? An illustration of this "chicken or egg" problem is that of the milk technology center, created by FAO within Chile's Universidad Austral, to serve all Latin America. But after creation it was left (from a budget perspective) to languish. Chilean milk processing firms and farms lament the decline of the center but have not seen fit to help finance it or collaborate substantially in its research activities, preferring to look abroad when the center does not respond to their requirements. The upshot is that milk processing firms and farm have a shrinking domestic base from which to obtain inputs and technology they require, even including the refurbishing of second-

hand machinery. They import inputs that embody technology developed for conditions in the exporting country. That technology is not well suited to the needs and production of most small firms and farms that are rich in labor but poor in financial capital to buy the machines, and that in any case suffer from technical inefficiencies when using equipment designed to be efficient in large-scale operations.

### **THE EFFECTS OF DECLUSTERING AND COMPETITION ON SMALL FIRMS AND FARMS**

Domestic firms undertook defensive survival strategies in the face of the rapid changes discussed above, following innovators that tend mainly to be the multinational firms (Katz, 2000; Meyer-Stramer, 1999). Yet, despite the solid growth of the milk subsector, the studies of Chile, Argentina, and Uruguay show that small farms and agroindustrial firms have suffered substantially in the milk subsector. Jank, Farina, and Galan (1999) find a similar phenomenon in Brazil in the 1990s.

There has been rapid increase in the past decade of the share of total milk output that goes to multinationals as opposed to domestic milk processing firms. This is because, as noted above, multinational firms dealing in milk products bought many medium-large domestic milk processing firms in the 1990s. The outcome in Chile is that by 1997, 88.4% of milk output is now sent to five large firms, two of which are multinationals, one is mixed foreign-domestic capital, one is a Chilean conglomerate with investments in other Latin American countries, and one is a cooperative. The first four (the exception is the fifth processor, the cooperative) have access to the international capital market. In Argentina, in the past 15 years, the milk processing industry's concentration and multinationalization has been rapid. Nestlé (in Argentina since 1929), Parmalat, Kraft General Foods, and Bongrain increased their presence in the market through acquisition of domestic firms. By contrast, in Uruguay, 70% of remitted milk goes to the domestic cooperative, Conaprole. However, in the second half of the 1990s, multinationals have increased their presence in the Uruguayan milk processing industry with the entry of Parmalat, and of Bongrain through a joint-venture with Conaprole. This has led to stronger competition both to buy milk and to sell to consumers. The consequence is that Conaprole has had to increase milk prices paid to large dairy farmers to keep them as suppliers; they made it up by reducing prices paid to small dairy farmers, many of whom were thus forced to exit the subsector.

However, overall, over the past ten years, in most countries studied, there has been a continuous reduction in real farm prices, while consumer prices have

remained relatively constant or have declined much less than farm prices. The difference remained somewhere in the chain between the factory and the consumer. Thus, the real milk price paid to farmers saw a yearly average decline of 3.7% over the last ten years in Chile and of 2.1% between 1990 and 1997 in Colombia. In Uruguay, milk prices to the farmer evolved in line with production costs, but in the last five years they lost near to 50% in relation to the consumer price index.

Moreover, the milk of the surviving small dairy farms tends to go to small milk processing firms. This is because the large processors prefer large farmers who have greater capacity to meet increasing quality standards and generate lower transaction costs. This has meant that many small firms and farms have had to exit the subsector. In Chile, between 1995 and 1997, some 4,000 dairy farms (mainly small-scale farms), 10% of all Chilean dairy farms, were pushed out of business. In Argentina, despite average yearly growth of milk output of about 6% over the 1990s, there are 30% fewer milk processing firms and the number of dairy farmers fell from 37,000 to 20,000. In Uruguay, remittance of small-scale farmers fell from 42% to 22% of total milk remittance in the past ten years.

Finally, the four country studies point to four factors that discriminate against small firms and farms in the milk products subsector. (1) Domestic firms without access to the international capital markets pay higher interest rates which increases their costs relative to multinationals and large domestic firms. (2) As noted above in our discussion of weak upstream linkages in the clusters, relative lack of local engineering services, and domestic production of equipment and supplies, hurt the small farms and firms the most, as they cannot afford imported services and equipment. The latter, even if affordable, are not adapted to small-scale operations. (3) The share of milk and milk products sold through supermarket chains is rising quickly, which means that quality, safety, packaging, cost, and volume requirements are becoming increasingly difficult especially for small firms. (4) There is a trend toward the development of brands for milk products and toward rapid differentiation of milk products. Below we expand on the latter two points, concerning the changes in the retail situation for milk products.

The rapid rise of the importance of supermarkets in milk products retailing in Latin America imposes obstacles for small firms. On the one hand, supermarket chains charge a variety of fees for merchandising the product (shelf fee, brand fee, share of sales, and so on). On the other hand, although supermarkets usually have rapid inventory turn-over of milk products, they pay suppliers only per month or with even greater delays, which acts as a *de facto* interest rate charge to the supplier. These costs are severe burdens for small firms and there is anecdotal evidence that this has kept many small firms from selling through supermarkets.

Moreover, in the 1990s, milk product diversification was rapid in Latin

America, particularly in yogurt, milk-based desserts, and fluid milks with various flavors and fat, vitamin, and calcium content. For yogurt and desserts, packaging is usually geared to individual consumption. Promotion campaigns are frequent, accompanied by the use of special packaging and gifts. Small enterprises find it very difficult to keep up with the pace of product innovation and packaging requirements of these new merchandising strategies of large processors and supermarkets. We surmise that in the Latin American countries studied, but most particularly in Chile, large milk products firms have entered a upward spiral of competition regarding product differentiation that will be difficult to wind down in the short run. For example, in 1991, Nestlé Switzerland, following a strategy that had been successful in France and the United Kingdom via its subsidiaries La Laitière and Milkmaid respectively, instructed all its companies in Latin America to use the brand La Lechera for all milk products to save on costs of advertising, printing, and market analysis. This did not achieve the expected results and each of its subsidiaries returned to country-specific sets of brand names.

The upshot is that the level and pace of brand development is hard on small firms and on consumers who absorb the costs of that development in Latin America.

### **BUCKING THE TRENDS: SUCCESSFUL DOMESTIC FIRMS IN A COMPETITIVE MARKET**

Despite the relative lack of linkages to domestic input production activities and relative reliance on input imports, there are various cases of successful developments in clusters in the Latin American case study countries. In the 1990s there were a number of new investments in existing firms and the creation of new enterprises linked to the milk sector. The investments have mainly been in services (laboratories; importers and distributors of semen, veterinary inputs, other variable inputs and equipment; transport; accounting; advertising). Except for the laboratories, transport, and accounting services, the other service firms tend to have their headquarters in the capital city and work through local representatives in other milk production areas. The emergent firms or recently strengthened firms created and defended market niches. Chilean and Uruguayan illustrations are provided below.

The firm Termec was created in southern Chile (in the Tenth Region) in 1992 in response to demand for dairy equipment by milk cluster firms in Chile in a situation where many other equipment firms had gone or were going out of business. Sixty-five percentage of Chile's milk output comes from the Tenth Region, which is about a thousand kilometers from the Chilean capital, Santiago. Termec began by refurbishing a pasteurizing machine; by so doing, they

discovered that the machine was not too complex for them to produce themselves. They undertook reverse engineering and now produce pasteurizing machines and other machines and variable input supplies for the fluid milk and cheese industry in Chile. Recently, processing firms and dairy farms have bought complete production lines from the firm. Even one of the multinational firms consulted Termec to get a second opinion on a planned equipment purchase abroad. Because of the recent decrease in equipment investments by small and medium firms in the milk subsector in Chile, Termec has reoriented its activities toward other sectors (salmon and seaweed) that require similar technology and are based in the same region.

Dilaco is a Chilean firm based in Santiago, importing fermentation inputs for cheese production since the early 1980s. Until recently, it had a monopoly in the Chilean market. Dilaco is among the main vectors of cheese technology transfer from the world market; other vectors include the Milk Technology Center of Universidad Austral (in the Tenth Region) and recently some joint-ventures between Chilean firms and multinationals. Despite its monopoly or more recently, near-monopoly position, a factor of its success has been its continual efforts to improve the quality of cheeses produced by its clients. It does so through frequent visits and direct technical assistance. Dilaco uses a just-in-time delivery system using Chile's extensive and reliable bus network.

Some cooperatives have also been successful in surviving and even prospering in the new competitive context. It is common for dairy farmers to form cooperatives either to increase their negotiating power with the plant, or to facilitate vertical integration by forming their own processing plant. This is because milk is bulky and perishable, milk processing plants are typically in a monopsony position in their catchment area. While a number of cooperatives have fallen on hard times, some have been quite successful. Beside the example of SanCor discussed above, an important illustration is that of Conaprole (National Milk Producers Cooperative) of Uruguay, formed in the late 1930s through government action. It presently receives 70% of the milk sold by Uruguayan dairy farms. Conaprole has a tradition of providing technical assistance to its members. In the early 1980s, Conaprole adopted New Zealand pasture technology required to lower costs to be competitive in the export market. In the mid 1980s, it began sourcing technical assistance from private local firms, spurring their development. It also cofinanced the purchase of these services by farmer groups that it had organized.

Why did the above firms and cooperatives succeed while so many others were failing? In general, the successes were the result of deliberate, strategic actions with a clear view of the threats posed by the competitive market. Also the opportunities in the market presented by the exit of small and medium firms left a supply gap in some cases.

## CONCLUSIONS

Empirical evidence in Latin America shows that clusters are very heterogeneous and in general differ from the stylized image that has inspired academic and policy discussions. The key point is that in the 1990s and presently, in the context of the liberalized and globalized Latin American food system, milk clusters have relatively weak upstream linkages (with domestic variable input and equipment suppliers, as well as with firms and institutions supplying technical and market information based on applied research). Moreover, the trend toward imported inputs and equipment, as well as other forces concentrating the sector and increasing competition, make for a very difficult challenge for small firms and farms to survive. In fact, 1000s are exiting the sector.

The concentration of the industry brings concentration of decision making, as well as of buying and selling power. Moreover, economic forces as well as business strategies are shifting the decision-making centers of the industry toward urban and peri-urban areas where multinationals and large domestic firms have their headquarters. These trends imply the loss of power and knowledge in the rural hinterland where part of domestic milk production still occurs. The trends also imply that one cannot speak of a single milk cluster in a given country, but rather several clusters or subclusters, with sharply different characteristics—and success—depending on location with respect to cities, and whether the cluster is centered around multinational or large domestic firms, or small firms and farms. The hard truth is that changes in consumer demand, retail structure (rise of supermarkets), and increase in quality and health standards all point to a rough road for clusters based on small firms and farms and a growth path for clusters built around the larger firms. In the process, as milk producer prices trend down but consumer prices remain stable, there is a shift in income in the chain from the farmer to the processor and the distributor.

Merely from the production, competitiveness, and investment viewpoints, the difficulties and even failure of many small firms and farms are not pressing issues. But if one takes into account that such failures spell employment loss for rural people in poorer areas, the trends are indeed worrying.

At issue then is whether there are potential actions for governments and civil society to take that can promote growth with equity in the milk products subsector. In a highly competitive context, such actions must aim at building competitiveness, but maximize the participation of small firms and farms to do so. A first step is to change policy messages from “foreign is beautiful” toward a more a neutral, or even - why not? - modest bias toward “local is beautiful,” so that all involved come to first look at the options available in their local surroundings.

Local business associations would do well to rethink their role, as they can (together with local governments) serve as fora, loci of collective action, and

undertake activities with economies of scale that build overall competitiveness of the industry as well as of the smaller firms and farms in it. These activities include training, research, information gathering and dissemination, participation in trade and technology fairs, purchase of inputs, and marketing. The fora could focus on discussions of strengths, weaknesses, opportunities, and threats to the sector, and on finding solutions to problems that combine efficiency with equity. Some countries are making steps in that direction, to wit, Colombia and its Competitiveness Pact. The actions of associations and governments working together can also help to construct or recuperate social capital in milk clusters, which in turn can lead to the emergence of synergies among agents, despite their differences in assets, interests, and objectives. Finally, support to micro and small enterprises (in terms of financial, technical assistance, infrastructure, and market information) is justified because of their role in employment and geographic location of production, decision making and ownership. Thus, they could move from mere survivors to competitive parts of the new milk products system in Latin America.

**Acknowledgments:** I thank Garth Holloway, Thomas Reardon, Greg Scott, and four anonymous referees for their helpful comments, and the Government of the Netherlands, the UN-Economic Commission for Latin America and the Caribbean, and the Argentine Government for funding.

## REFERENCES

- Altenburg, T., and J. Meyer-Stramer. 1999. "How to promote clusters: policy experiences from Latin America." *World Development*, 27, 1693–1713.
- Dirven, M., and L. Ortega. (2001). "Complejo productivo lácteo en Chile." In M. Dirven, ed., *Apertura y (des)encadenamientos: reflexiones en torno a los lácteos* (pp. 152–192). Santiago, Chile: ECLAC.
- Enzing, C. M., and W. K. van Dalen. 1998. "El sector lácteo neerlandés: nuevas realidades y cifras." In M. Dirven, ed., op cit., pp. 276–292.
- Jank, M. S., E. M. M. Q. Farina, and V. B. Galan. 1999. *O agribusiness do leite no Brasil*. Sao Paulo, Brasil: IPEA/PENSA/USP, Editora Milkbizz.
- Katz, J. 1999. "Reformas estructurales, productividad y conducta tecnológica." Santiago, Chile: ECLAC. Unprocessed.
- Ministerio de Economía de la República Argentina. 2000. "Argentina: Informe sectorial sobre leche y productos lácteos." In M. Dirven, ed., op cit., pp. 261–274.
- Porter, M. E. 1998. "Clusters and the new economics of competition." *Harvard Business Review*, November-December: 77–90.
- Ramos, J. (1998). "Una estrategia de desarrollo a partir de los complejos productivos en torno a los recursos naturales." *Revista de la CEPAL*, 66, 105–125.
- Stumpo, G., ed. 1998. *Empresas transnacionales: procesos de reestructuración industrial y políticas económicas en América Latina*. Editorial. Santiago, Chile: CEPAL/Alianza.
- Suarez, R. 2000. "El complejo productivo lácteo en Colombia." In M. Dirven, ed., op cit., pp. 192–234.
- Vaillant, M., H. Freiría, and R. Patrón. 2000. In M. Dirven, ed., op cit., pp. 235–260.